



**MAINE POWER  
RELIABILITY PROGRAM**  
A CENTRAL MAINE POWER COMPANY PROGRAM

**BOWDOINHAM, MAINE  
APPLICATION FOR SITE PLAN REVIEW  
AND SHORELAND ZONING APPROVAL**

**Section 375/377 Double Circuit Tower Separation and  
Transmission Line Construction; Section 81 Transmission Line  
Relocation**

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## **Planning Board Application Form**

## **Agent Authorization Letter**

## **Application Summary**

The Maine Power Reliability Program (MPRP) is a project by Central Maine Power Company (CMP) to upgrade Maine's bulk power system. CMP must upgrade its bulk power system with this proposed project in order to meet mandatory standards and to provide reliable electric service to Maine customers into the future. The MPRP consists of a network of 345 kV and 115 kV transmission lines and associated substations throughout CMP's service territory where particular needs were identified. The MPRP ranges from Eliot in the south, Rumford in the west, Orrington and Searsport in the east, and Pittsfield to the north. In all, the MPRP will encompass nearly 80 Maine towns.

The proposed MPRP construction in the Town of Bowdoinham includes rebuilding approximately 2.2 miles of existing transmission lines in order to maintain compliance with mandatory and enforceable federal reliability standards. No new transmission lines are proposed. An existing set of "double circuit towers" supporting two 345 kV lines will be modified so that each 345 kV line will be constructed on a separate set of transmission line structures. One 345 kV line will remain on the existing set of transmission line structures, and the other 345 kV line will be constructed on a new set of structures. An existing 115 kV line will also be relocated to the new 345 kV transmission line structures. All of these proposed improvements will occur within the existing CMP transmission corridor. These upgrades will improve the 345 kV backbone of Maine's bulk power system by maintaining reliability, safety, and security of the 345 kV infrastructure.

In the Town of Bowdoinham, the MPRP will be constructed in the following zoning districts: Residential/Agricultural, Limited Residential, and Resource Protection. CMP is seeking Site Plan Review and Shoreland Zoning approval from the Bowdoinham Planning Board to construct the MPRP in the Town of Bowdoinham. This application is comprised of the following sections:

- MPRP Project Description
- The MPRP in the Town of Bowdoinham
- Land Use Ordinance Articles 6, 7, 8, and 10 Performance Standards and Criteria
- Supporting Exhibits 1 through 9.

## **MPRP Project Description**

The MPRP is a project by CMP to upgrade Maine's bulk power system. The vast majority of Maine's bulk power transmission system was placed into service in the early 1970s and is now reaching the limits of its ability to meet the growing electrical demand of Maine customers. Since the last major transmission infrastructure was completed more than 30 years ago, the patterns of both available generation and customer load have shifted significantly. For example, population has become more concentrated in the southern part of the state, while the generation needed to serve that load is now more distant and dispersed. When these pattern changes are combined with the increasing peak demand the current transmission infrastructure in Maine will, in very few years, become inadequate. In addition, the reliability and security standards mandated by law and administered by the North American Electric Reliability Corporation (NERC), the Northeast Power Coordinating Council, Inc. (NPCC), and ISO New England (ISO-NE) have changed significantly in recent years. CMP must upgrade its bulk power system with this proposed project in order to meet the mandatory standards and to provide reliable electric service to Maine customers into the future.

CMP's system consists of both "transmission" and "distribution" lines. Transmission lines function as the highway system of the electrical grid by feeding electricity from where it is generated (such as at power plants) to substations. From there, the distribution system carries the electricity from substations to customers. Transmission lines in Maine are typically operated at one of two levels – 115,000 volts, also expressed as 115 kilovolts ("kV") and 345,000 volts, often referred to as 345 kV. CMP's 345 kV transmission system was built and put into service in 1971. Since then power consumption has more than doubled. In recent years, both CMP and ISO-NE have identified certain reliability issues with the 345 kV system that need to be assessed and addressed.

In February of 2007, the MPRP began a comprehensive needs assessment of CMP's bulk power transmission system. The study included a 10-year forecast to evaluate the system in Maine, including a review of system reliability and performance under various system conditions and operating scenarios, as well as a needs assessment to ensure a reliable transmission system in the most cost-effective manner possible. The study identified a number of significant reliability issues with Maine's bulk transmission system, including insufficient 345 kV transmission capacity, insufficient 115/345 kV transformation capacity, and insufficient transmission support and/or infrastructure in all regions served by CMP.

After completing the needs assessment, the MPRP team evaluated possible solutions. This included both transmission and non-transmission alternatives, including energy efficiency, before CMP designated its preferred solution. CMP ultimately selected a primarily transmission solution (although a small geographic area known as the South Portland loop will be addressed through non-transmission alternatives) based on a number of factors, including electrical performance, cost effectiveness, impacts to landowners, and Maine's environment under various forecasts of future conditions. The proposed solution consists of a network of 345 kV and 115 kV transmission lines and associated substations throughout CMP's service territory where particular needs were identified (see Figure 1).



Figure 1: Project Scope Map

The proposed transmission solution ranges from Eliot in the south, Rumford in the west, Orrington in the east, and Pittsfield to the north. In all, the MPRP will encompass nearly 75 Maine communities. The MPRP has obtained permits and approvals to begin construction from the PUC, the Maine Department of Environmental Protection, the Army Corps of Engineers (ACOE), and 62 municipalities.

## The MPRP in the Town of Bowdoinham

The following text describes the proposed MPRP activities in the Town of Bowdoinham in the following order:

- Proposed MPRP Infrastructure Improvements
- Construction Access
- Pre- and Post-Construction Vegetation Maintenance and Management
- Construction Plan and Sequencing
- Construction Schedule
- Bowdoinham Zoning Districts

### *Proposed MPRP Infrastructure Improvements*

In the Town of Bowdoinham, the proposed MPRP construction will not increase the capacity of the transmission lines, but rather, will address a structural non-compliance with federal reliability standards. The proposed MPRP construction in the Town of Bowdoinham includes a “double circuit tower” separation, which involves rebuilding approximately 2.2 miles of existing transmission lines in order maintain compliance with new, mandatory, and enforceable federal reliability standards. No new transmission lines are proposed.

The proposed MPRP construction in the Town of Bowdoinham is located within an existing CMP transmission corridor that has been maintained by CMP for decades (see Project Overview Map in Exhibit 1). This existing corridor is identified as Segment 16 of the MPRP. The proposed construction area is approximately 2.2 miles in length, and begins approximately 0.47 miles southwest of the intersection of Center’s Point Road and Brown’s Point Road. The transmission corridor runs in an easterly direction and crosses Center’s Point Road at approximately 0.42 miles, the Abagadasset River at approximately 0.59 miles, Brown’s Point Road at approximately 0.81 and 1.15 miles, and finally the Kennebec River at approximately 2.03 miles.

An existing set of double circuit towers supporting two 345 kV lines (“Section 375” and “Section 377”) will be reconfigured such that Section 375 and Section 377 will each be constructed on a separate set of transmission line structures (see Transmission Corridor Cross Sections in Exhibit 2). Section 375 will remain on the existing set of transmission line structures, and Section 377 will be constructed on a new set of transmission line structures in the existing CMP transmission corridor. The existing 115 kV line (“Section 81”) will be relocated to the new Section 377 transmission line structures. These upgrades will improve the 345 kV backbone of Maine’s bulk power system by maintaining reliability, safety, and security of the 345 kV infrastructure.

Section 375 will remain on the existing set of H-frame and lattice tower transmission line structures that it is presently supported by, although some modifications will be made. These include the removal of two existing lattice towers, the construction of two new lattice towers at the Abagadasset River crossing, the construction of four new steel monopoles, and replacement of one existing H-frame structure (see Project Scope and Natural Resources Maps in Exhibit 1). The wooden H-frame replacement will be approximately 116 feet tall and the proposed steel lattice towers and single poles will be approximately 140 feet tall, which is comparable to the existing lattice tower structures. The H-frame replacement and the steel single poles will each require foundations that will range from 40 to 115 square feet in area, and the lattice towers will require foundations that will be approximately 1000 square feet in area.

Section 377 will be rebuilt on a new set of transmission line structures that will be constructed within the existing CMP corridor (see Project Scope and Natural Resources Maps in Exhibit 1). The new transmission line structures will include 12 steel monopoles and one lattice tower where the crossing of the Kennebec River begins. Two existing lattice towers will be used for the Abagadasset River crossing. As with the existing lattice towers, the new steel monopole structures will have a typical above ground height of 140 feet. The new lattice tower at the start of the Kennebec River crossing will be approximately 330 feet tall, which is comparable to the existing Section 375 lattice tower. Each of the monopole structures will be constructed on a 40 to 115 square foot concrete foundation. The lattice tower will be constructed on a foundation up to approximately 1,000 square feet in area.

Section 81 will be relocated to the proposed Section 377 steel monopole structures (see Transmission Corridor Cross Sections in Exhibit 2). An existing 0.42 mile section of CMP transmission corridor containing Section 81 where it splits from the Section 375/377 corridor and crosses the Abagadasset River will also be taken out of service after the existing Section 81 infrastructure is removed (see Project Scope and Natural Resources Maps in Exhibit 1).

### ***Construction Access***

Temporary access ways, which do not add any impervious surface area, will be established within the MPRP corridor for use during the construction phase. Temporary access ways are equipment paths approximately 20 feet wide suitable for the passage of equipment such as excavators, cranes, and other equipment. The temporary access ways will be created by trimming back tall shrubs and saplings to ground level. Roots will be left in place, unless existing large stumps that would pose a travel hazard for equipment are present. In most cases, herbaceous growth and low-compact shrubs will not be trimmed. Grading along the access ways will be limited to areas where minor grading is needed to facilitate safe equipment access. Surface drainage will be maintained. Establishment of temporary access ways is a construction necessity that will be an ongoing process as access to areas undergoing immediate construction becomes necessary. All access paths will be temporary and will be removed once construction is complete.

The proposed location of the MPRP temporary access ways is shown on the Project Scope and Natural Resources Maps provided in Exhibit 1. These access ways have been designed to avoid and minimize crossings and impacts to protected natural resources such as wetlands and vernal

pools, and to work with existing site topography. Where protected natural resources could not be avoided, these impacts have been reviewed, accounted for, and permitted by the MDEP and the ACOE. In agricultural areas, CMP has consulted with farmers and abutting landowners to plan access ways that use existing farm roads and minimize disturbance and travel distances in agricultural land.

Where temporary access ways will connect with public roads, they will be located where there is sufficient sight distance for equipment to safely egress the transmission corridor. Surface drainage adjacent to and along connecting public roads will be maintained during and subsequent to construction. Construction activities will be managed so that they do not interfere with municipal maintenance, emergency access, or public access along public roads.

With regard to the use of public roads to access the project area, CMP recognizes that the Town of Bowdoinham would like heavy equipment and heavy truck traffic between Route 24 and the Brown's Point Road crossing of the Abagadasset River Bridge to be minimized, and avoided when possible, due to the potential for damaging this recently refurbished section of road. Accordingly, heavy equipment and heavy truck traffic will use Route 24 and Pork Point Road as the primary means of accessing the project area, which CMP understands is preferred by the Town. However, because of possible weight limitations on the Abagadasset River Bridge and construction necessities, some heavy equipment will need to travel along Brown's Point Road between Route 24 and the Abagadasset River bridge.

To mitigate the potential for road damage and to address any road damage that may occur, CMP proposes the following. First, when plausible, the contractor will schedule heavy equipment travel during frozen ground conditions, weather and logistical considerations permitting. Second, as a routine and standard MPRP procedure, it will be the contractual obligation of the MPRP construction contractor to repair any road damage caused by MPRP construction to pre-construction conditions. The construction contract will require the construction contractor to conduct a pre-construction survey of road conditions with video and written documentation, and a post-construction inspection. The contract will further require the construction contractor to repair any road damage caused by MPRP construction to pre-construction conditions. At the request of the Town of Bowdoinham, a representative of the Town, such as the Public Works Director or Code Enforcement Officer, will be included in the pre-or post-construction inspection.

### ***Pre- and Post-Construction Vegetation Maintenance and Management***

Although CMP will not need to acquire additional land or widen the existing corridor to construct the MPRP in Bowdoinham, vegetation capable of growing tall enough to interfere with the transmission lines ("capable species") will be removed prior to construction. At selected locations, trees will be removed from within the transmission corridor to accommodate the proposed transmission line improvements, and to maintain the necessary lateral clearances between transmission conductors and the corridor edge for safe and reliable operation. Proposed areas of forest conversion are shown on the Project Scope and Natural Resources Maps in Exhibit 1. The transmission corridor vegetation maintenance work will be conducted in accordance with CMP's existing and routine vegetation management practices, which are

presently implemented in the corridor approximately every four years. Vegetation maintenance will also comply with vegetation maintenance practices specified for the MPRP in Appendix B of the DEP land use permit. Thus, with the exception of limited areas of conversion of forest to a shrub-meadow cover type, the vegetation maintenance that will occur prior to construction will not differ from the existing maintenance practices that are implemented in the corridor.

Within the proposed MPRP construction areas, an additional area of temporary vegetation trimming may also be necessary in the work area around certain transmission line structures and along temporary construction access ways, in order to facilitate pole installation and equipment operation. Within the construction area saplings and tall shrubs will be trimmed and mulched to existing grade to facilitate equipment operation. Roots will be left in-place. Low-compact shrubs and herbaceous growth that will not affect equipment operation will not be trimmed. Subsequent to construction the area of temporary vegetation trimming will be stabilized as needed and allowed to naturally re-vegetate with non-capable species. The area will be maintained in the shrub-meadow cover type as is presently done with the existing corridor.

Temporary access ways where the additional temporary vegetation trimming will occur will be approximately 20 feet wide, and are shown on the Project Scope and Natural Resource Maps in Exhibit 1. Where temporary access ways must cross protected natural resources, the crossings have been designed to minimize impacts. These impacts have been reviewed and permitted by the Maine Department of Environmental Protection and the U.S. Army Corps of Engineers.

The area of additional temporary vegetation trimming in work areas around transmission line structures will depend on the type of transmission line structure. H-frames may require a work area within an approximately 25 foot radius around the H-frame. Steel monopoles and lattice towers may require a work area of approximately 200 feet by 200 feet. The proposed and existing transmission line structures are shown on the Project Scope and Natural Resources Maps in Exhibit 1, but the area of temporary workspace and vegetation trimming around the transmission line structures is not shown because the precise shape and limit of these areas will be determined by the contractor during construction in order to work with and minimize disturbance to existing site contours, topography, land uses, and substrate given the specific equipment that will be used. As discussed below, the proposed construction has been scheduled during the fall, winter, and spring to minimize disruptions to agriculture. Prior to starting construction, CMP's contractor will also consult with farmers regarding the temporary workspace configuration and location.

Subsequent to construction, the transmission corridor will continue to be managed to maintain a shrub-meadow cover type, as is presently done. Non-capable species (meaning those species that grow less than 10 feet tall) will continue to be maintained in the corridor, and will also be allowed to naturally re-establish in areas that were temporarily disturbed by MPRP construction. Removal of capable species to maintain a shrub-meadow cover type (or allowing landowners to maintain hayfield, row crops, or other suitable cover type) will be done on a four-year cycle in accordance with existing standard corridor maintenance procedures, which are presently implemented in the existing transmission corridor.

### ***Proposed Construction Plan Sequencing for Environmental Protection***

The MPRP has been designed to minimize erosion and sedimentation. The transmission lines have undergone a rigorous environmental review by MPRP staff and consultants and regulatory agencies to site the transmission line structures and temporary construction access ways so that they minimize natural resource impacts and fit site topography to the extent practicable. Erosion and sediment controls will be implemented during all stages of construction, as described below. Exposed soil areas will be minimized and promptly stabilized throughout construction.

In order to minimize the risk of erosion and sedimentation, construction will occur in accordance with the construction plan described in the following text, and as described in CMP's *Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects* (Environmental Guidelines), which has been provided as Exhibit 3. The Environmental Guidelines have been approved for use for the MPRP by the MDEP and the ACOE. Adherence to the Environmental Guidelines is required as part of the permit approvals from the MDEP and ACOE.

The Environmental Guidelines will serve as the erosion and sediment control reference manual to be used by the contractor during construction. The Environmental Guidelines describe erosion and sediment control requirements, standards, and methods to be used by the contractor to protect soil and water resources. The manual was developed in consultation with the MDEP and is largely based on MDEP's *Maine Erosion and Sediment Control BMPs*, dated March 2003, and MDEP's Chapter 500, Stormwater Management, and contains specific Best Management Practices appropriate for electric transmission line construction.

In the following discussion of how construction will be implemented, references are made to the relevant sections of the MPRP Environmental Guidelines including descriptive text, figures, and illustrations regarding how specific erosion and sediment control measures such as wetland and stream crossing techniques, structural erosion control measures, and non-structural measures will be utilized and installed.

### ***Personnel Responsible for Implementation of Construction Erosion and Sediment Control***

Project personnel that will be responsible for the implementation, management, and oversight of environmental protection measures and compliance during construction, including erosion and sediment control, include the MPRP Environmental Inspector, the MPRP contractor, and the MPRP Third Party Inspector.

The MPRP Environmental Inspector is an agent of CMP who is responsible for inspecting construction areas for compliance with environmental permit requirements and proper implementation of erosion and sediment control measures. The Environmental Inspector will conduct daily inspections of active construction areas, and will communicate with the contractor on a daily basis. If problem areas and instances of non-compliance are identified by the Environmental Inspector, the Environmental Inspector will discuss the necessary corrective measures that need to be taken by the contractor, and implementation of these measures.

During construction, the contractor (vegetation maintenance or construction) is responsible for establishing and maintaining environmental controls, including erosion and sediment control measures, in conformance with permit conditions and as directed by the Environmental Inspector. Oftentimes, the contractor will have their own in-house environmental compliance manager to ensure construction is completed in accordance with permit conditions.

The Third Party Inspector is an independent environmental professional that has been previously agreed upon by CMP and the Maine DEP to serve as the Third Party Inspector for the MPRP construction. CMP pays the cost of the Third Party Inspector's services, and the Third Party Inspector reports directly to the Maine DEP. The Third Party Inspector will complete inspections at regular intervals, usually on a daily basis, of active construction areas to review environmental and permit compliance measures, including erosion and sediment control.

Procedures for Reporting and Correcting Environmental Compliance Problems

If the Third Party Inspector identifies an erosion and sedimentation problem, other areas of concern, or an instance of environmental non-compliance, he/she will discuss the identified problem(s) with the contractor and Environmental Inspector to develop a plan to correct the issue(s). The contractor will be responsible for implementing the corrective plan. The Third Party Inspector will promptly submit a written report that will identify any erosion and sedimentation problems, or other instance of environmental non-compliance, directly to the Maine DEP for each inspection conducted, which enables the Maine DEP to actively monitor construction as it occurs.

Construction Sequence

The general transmission line construction sequence listed below will be followed. Each item listed is independently discussed under the following subheadings.

- Pre-construction flagging and staking of protected natural resources;
- Establish construction yards and on-site staging areas;
- Complete the initial program "walk-through" with the Environmental Inspector, Third Party Inspector, program engineer, and construction personnel;
- Plan and install erosion controls and access at protected resources such as waterbodies, wetlands, areas of saturated soils, and areas susceptible to erosion;
- Establish temporary construction access ways;
- Maintain vegetation and conduct minor grading in temporary work areas;
- Remove existing Section 81 transmission line structures;
- Move materials to transmission line structure and laydown locations;
- Complete test borings/excavations;
- Install additional erosion controls at transmission line structure locations;
- Excavate foundation holes and pour foundations;
- Erect transmission line structures;
- Restore work sites;
- Conduct transmission corridor vegetation maintenance;
- Establish "pull-pad" locations and move tensioning and pulling equipment into place;

- Thread and install pull ropes, conductor, and fiber optic wire;
- Clip conductor and remove blocks;
- Complete the construction inspection, clean-up, and restoration, and then energize the line; and
- Complete the final program “walk-through” and restoration.

### *1.) Pre-construction flagging and staking of protected natural resources*

Natural resources protected by state and federal law have been identified, and where necessary delineated and mapped within the MPRP Project Area. Shortly before the start of vegetation maintenance and construction activities, CMP’s environmental consultant will re-flag protected natural resources with color-coded flagging tape that will be keyed by color to specific protected natural resource types. In addition, CMP’s environmental consultant will establish laminated signs on wooden stakes along the proposed temporary construction access ways to demarcate locations where the temporary access ways approach protected natural resources or natural resource buffers, and to demarcate ‘no access’ areas. Once construction begins, the contractor will be responsible for ensuring the resource flagging is freshened as needed and remains visible during construction.

### *2.) Establish Construction Yards and On-Site Staging Areas*

The contractor will utilize a principal working construction yard, office, and staging area in the vicinity of the transmission corridor. This area will be used to stage the bulk of construction materials such as poles, wire, and equipment and will serve as a central point of communication. The location of the principal construction base may or may not be within the Town of South Berwick, and will be determined by the contractor. A secondary yard may be established to store some materials closer to their area of application and may serve as a landing site if helicopters are used to transport construction materials. Site-specific staging areas will also be established at strategic locations along the transmission corridor, often where the corridor crosses public roads. Construction yards and staging areas will be established away from protected natural resources in accordance with the MPRP state and federal permits. The contractor will apply for any necessary municipal permits related to construction yards and staging areas.

### *3.) Complete Initial “Walk-Through”*

Prior to the start of vegetation maintenance, access way establishment, or construction, project personnel including the MPRP Environmental Inspector, the Third Party Inspector, and the construction contractor will walk the length of the transmission corridor to identify critical areas where construction and construction access may be difficult due to terrain, wetland and water course conditions, or the location of protected or sensitive natural resources. Color designations of the resource flagging used will be reviewed during the walk through (see Section 2.2.1 of the Environmental Guidelines in Exhibit 3 of the MPRP Application for typical color designations). Erosion control placement, access way layout, and wetland and stream crossing locations will be addressed, with avoidance and minimization of wetland impacts as a priority. Potential alternative access ways will also be evaluated during the walk-through. Alternative access ways will be used only with landowner permission and in compliance with state, federal, and

municipal approvals. The communication chain of command to be utilized during construction will be established during the walk through.

The type and location of erosion and sediment controls, and wetland and stream crossings will be determined during the walk-through. Wetland and stream crossing techniques that may be used are discussed in detail in Section 4.0 of the Environmental Guidelines (see Exhibit 3 of the MPRP Application). Stream crossing techniques that may be used include the use of temporary bridges, which are often constructed from swamp mats, and temporary culverts. Wetland crossing techniques that may be used include swamp mats, corduroy, or work during frozen ground conditions. Illustrations of these techniques are provided on pages 43 to 46 in Appendix D of the Environmental Guidelines (see Exhibit 3 of the MPRP Application). All of these temporary crossing methods will be removed by the contractor subsequent to construction.

The type and location of erosion controls to be used will also be discussed during the walk-through. Erosion and sediment controls that may be utilized are discussed in detail in Sections 5.0, 6.0, and 7.0 of the Environmental Guidelines (see Exhibit 3 of the MPRP Application), and illustrations of these techniques are provided on pages 47 to 52 in Appendix D of the Environmental Guidelines (see Exhibit 3 of the MPRP Application) and include waterbars, silt fence, hay bales, erosion control mix berms, and non-structural controls such as straw mulch, erosion control mix, matting, or seeding. Where used, silt fence and hay bales will be removed subsequent to construction once the site is stabilized.

#### *4.) Installation of Erosion Controls and Access at Protected Resources Such as Waterbodies and Wetlands, Areas of Saturated Soils, and Areas Susceptible to Erosion*

If identified during the walk-through, or at any time during construction, it can be reasonably assumed that soil disturbance adjacent to protected natural resources may result in sedimentation, erosion controls will be installed by the contractor. Installation of erosion controls will be completed as described for specific control types in Sections 4.0, 5.0, 6.0 and 7.0 of the Environmental Guidelines (see Exhibit 3 of the MPRP Application). Erosion controls and access ways will be inspected by CMP's Environmental Inspector, the contractor's environmental representative and the MDEP Third Party Inspector immediately following installation, and on a regular basis thereafter, as well as following any rain event exceeding 0.5-inches in 24 hours to ensure they installed and maintained correctly.

#### *5.) Establish Temporary Construction Access Ways*

Temporary construction access ways will be established to facilitate project construction. These access ways are intended to serve equipment such as vegetation maintenance machinery, excavators, cranes, and construction related trucks and vehicles. This will be an ongoing process as access will be established to areas undergoing immediate construction. As construction progresses, new access ways will be established and obsolete ones will be discontinued.

The proposed location of the temporary access ways are shown on the mapping provided in Exhibit 1. To the extent possible, these paths will be installed on existing unimproved trails that are currently located in and along the MPRP corridor. When possible, CMP will seek to obtain

permission to use private, off-corridor access roads that may enable the contractor to further avoid crossing certain streams and wetlands.

Construction of temporary access ways will require some clearing of heavy shrub growth, and grading (only in uplands) for safe access; however, the amount of grading required will be minor and will be limited to uplands. Vegetation maintenance related to the MPRP is discussed in more detail on the following page of this construction plan narrative.

### Wetland Crossings

During frozen ground conditions without snow, paths will be designated and access through many wetlands can often be completed without the use of construction mats. Construction mats, either timber or fiberglass composite, will be used in areas where the ground is not sufficiently frozen to support equipment. During winter construction with snow cover, packed snow paths (“snow roads”) and ice paths will be created to provide a solid surface for heavy equipment to traverse wetlands. The need for construction mats will be evaluated and discussed among the Third-Party Inspector, the MPRP Environmental Inspector, and the contractor on a case-by-case basis.

During non-frozen ground conditions, construction mats will be utilized to cross wetlands with standing water and/or organic soils, as well as streams and other areas particularly susceptible to rutting and erosion. This may require extensive installation of mats. However, there may be instances where the Third-Party Inspector, the MPRP Environmental Inspector, and the contractor conclude that mat installation, use, and removal would cause more disturbance than if no mats were used; in these cases, mats may not be used.

The typical use of construction mats to cross wetlands is described in Section 4.3 of the Environmental Guidelines, and illustrated on page 45 of Appendix D of the Environmental Guidelines (see Exhibit 3 of the MPRP Application). Cutting of non-capable vegetation, such as shrubs, in wetlands will be limited to those areas necessary for safe access. In these areas cutting will be selective. It will be a priority to lay construction mats on top of shrub vegetation, rather than remove it, where possible. No extensive grubbing (grading to remove root systems) within wetland crossing areas will be done prior to mat placement. Vegetation maintenance related to the MPRP is discussed in more detail in the following subsection of this construction plan narrative. Some minor grading may also be required to ensure mat stability and construction access safety. However, all such grading will be performed on a limited basis and only with prior approval by the MPRP Environmental Inspector.

### Stream Crossings

No new stream crossings are proposed in Bowdoinham. One existing woods road crossing of a beaver flowage will be used. If new stream crossings become necessary to accommodate construction in Bowdoinham, temporary bridges or temporary culverts will be used. Temporary bridges are typically created using timber construction mats and are the preferred method of stream crossing. The installation of temporary stream bridge crossings is discussed in detail in Section 4.1 of the Environmental Guidelines and is illustrated on pages 43 and 44 of the

Environmental Guidelines (see Exhibit 3 of the MPRP Application). A temporary stream bridge crossing schematic is also provided in Exhibit 4 of this submittal.

Temporary culvert crossings consist of a culvert underlain by geo-textile fabric, which is then surrounded by packed rock and gravel to produce a stable, safe temporary crossing. The installation of a temporary culvert stream crossing is described in Section 4.2 of the Environmental Guidelines and illustrated on page 43 of the Environmental Guidelines (see Exhibit 3 of the MPRP Application). A typical plan and cross section view of a temporary culvert stream crossing is provided in Exhibit 4. The permit issued by the Army Corps of Engineers for the MPRP also requires that any stream crossing utilizing a culvert shall be constructed with the bottom of the culvert embedded a minimum of six inches into the streambed, and must use a culvert with a diameter equal to 1.2 times the streambank width. As noted above, temporary bridges are the preferred method of stream crossing.

Temporary access ways, bridges, and culverts will be removed following the completion of construction activities. Areas of disturbed soils in uplands will be seeded and stabilized with hay or straw mulch or a thin layer of erosion control mulch. Wetland areas will be allowed to revegetate naturally and will be mulched with straw. Wetlands will be seeded with native wetland seed mix in areas of excessive disturbance resulting from construction. The MPRP Environmental Inspector will be on-site throughout the project to monitor the condition of the temporary access ways, and will provide instruction regarding where and when remedial measures are necessary.

#### *6.) Maintain Vegetation and Conduct Grading in Temporary Work Areas*

Prior to construction, vegetation trimming in the temporary construction workspace and access ways will be completed, the height of the existing vegetation cover will generally dictate the extent of preparation needed. Vegetation less than approximately 30" high will usually not require trimming. Where required, the vegetation trimming will remove the above-ground plant material to near ground level but will not impact the plant below the ground surface. Vegetation trimming may be performed using a grinding head, such as the "brontosaurus," attached to a small tracked vehicle, such as a Caterpillar Bobcat, or may be removed by hand, typically with a chainsaw. This above-ground removal of taller vegetation allows for a safe work platform using a less environmentally damaging approach, and also promotes more rapid regeneration than uprooting woody growth.

The area requiring vegetation and site preparation around each transmission line structure will vary by location and will be dependent on the type of structure that is to be installed, topography, and the proximity of protected natural resources. Typically, the preparation area will require a 25-foot radius around each pole. However, single pole steel structures and locations with more challenging working conditions will require up to a 50 foot radius. Minor grading may be required around transmission line structures to stabilize access ways and foundation sites where the terrain is uneven and construction equipment access would not be safe without grading. In general however, it is unlikely that extensive grading will be necessary.

Transmission line conductor pull-pad setup locations may also require leveling by limited grading in an approximately 100-foot by 75-foot area to assure equipment stability. These sites will typically be located in uplands; if absolutely necessary, however, sites may be set up in wetlands using construction mats with state and federal regulatory approval.

*7.) Remove Existing Section 81 Transmission Line Structures*

The existing Section 81 transmission line structures will be removed from the transmission corridor. The aboveground portion of the poles will be cut off at grade and removed from the corridor, except in agricultural areas, where the subsurface portion of the pole will also be removed.

*8.) Move Construction Materials to Transmission Line Structure and Laydown Locations*

The transmission line structure components will either be hauled in by truck or skidder or flown in via helicopter. In areas where access is suitable (e.g., level uplands near roads), trucks may be used. In areas with more difficult access, skidders may be used to bring the poles to the proposed pole locations. In very remote areas or if an accelerated schedule is being met, helicopter transportation may be used. Plan views of typical laydown area arrangements for steel and wooden pole structures are provided in Exhibit 4.

*9.) Complete Test Borings/Excavations*

To determine foundation design needs, proposed foundation locations may be pre-dug or bored prior to mobilizing a construction crew. If bedrock is encountered before the required depth for the placement of a specified pole is reached, blasting will be necessary.

*10.) Establish Additional Erosion Controls*

As access to each transmission line structure site is completed, and prior to the contractor commencing excavation for pole installation, erosion controls will be installed per the direction of the Environmental Inspector. These controls are in addition to the controls established during the initial site walk.

*11.) Excavate Foundation Holes*

Foundation hole excavation will be completed using a backhoe, excavator, or other suitable equipment. The hole may need to be dewatered in areas with a high water table. Topsoil will be set aside for restoration and after construction will be spread out evenly around each foundation as the surficial soil layer.

Although extensive blasting is not anticipated, limited controlled blasting may be required if bedrock is encountered. If blasting is required, proper safeguards will be employed to protect personnel and property in the vicinity of the blasting. Blasting mats will be used to prevent shot rock from scattering. Pre-blast surveys will be performed to identify the presence and condition

of wells, personal property, and utilities within 300 feet of the blast area. Blasting precautions will be the contractual responsibility of the contractor.

#### *12.) Erect Transmission Line Structures*

Once foundations are poured and set (where needed), cranes will be used to place the components of each transmission line structure in place, and construction crews will secure the components.

#### *13.) Restore Work Sites*

Once transmission line structures are erected, construction crews will restore disturbed temporary work areas and apply temporary erosion control in accordance with Section 9.0 of the Environmental Guidelines (see Exhibit 3 of the MPRP Application). Disturbed areas in uplands are typically seeded and/or mulched with hay (or straw, if necessary). Areas in wetlands are typically not seeded and are mulched with straw for permanent restoration. Temporary erosion control in wetlands can also be provided by applying straw over the exposed soil.

#### *14.) Conduct Transmission Corridor Vegetation Maintenance*

Vegetation within the MPRP transmission line corridor will be maintained by the vegetation management contractor in accordance with CMP's existing corridor management practices. Capable species will be treated or trimmed, and "danger trees" will also be identified and cut down at this time. "Danger trees" are dead, damaged, or dying trees located along the corridor that, due to their location, pose a risk of contact with the transmission line. Removal of "danger trees" is a relatively infrequent activity. If removal of "danger trees" requires accessing private property, CMP would first obtain landowner permission.

#### *15.) Establish "pull-pad" Locations and Move Tensioning and Pulling Equipment Into Place*

Pull-pads, often 100-feet by 75-feet, serve as level staging areas for installing pull ropes and conductor (see discussion below). The pull-pad sites vary in size and location, but are always directly underneath the location of the conductor. Pulling angles, the length of the conductor on the reels, the type of equipment required, topography, and access restrictions determine the locations and sizes of the pull-pads. These sites must be level to support the weight of the equipment; as such, some grading may be needed. Where soils are saturated or soft, construction mats will be used for stability. Should difficult site conditions be encountered, on-site consultation will be performed with the Third Party Inspector prior to locating any portion of a pulling or tension set-up in or near a protected natural resource. Furthermore, CMP would obtain any necessary state and federal regulatory approvals for pull pad impacts to protected natural resources that are beyond the scope of already permitted MPRP project impacts. The pullers and tensioners are typically mounted on large, flat bed-type tractor-trailer rigs, and can weigh in excess of 80,000 pounds. They frequently also need to be anchored by large bulldozers.

*16.) Thread and Install Pull Ropes, Conductor, and Fiber Optic Wire*

The conductor installation process involves three basic steps. A polypropylene line is first pulled through blocks on the insulators by using a helicopter or by workers on ATV's. A steel pulling wire connected to the polypropylene line is pulled from the conductor puller. The conductor puller then pulls the conductor through the blocks and the tension is set on the far end of the pull by equipment called a tensioner. Conductor pullers and tensioners require a large, level area for their setup, as discussed above.

*17.) Clip Conductor and Remove Blocks*

Clipping the conductor involves removing the wire from the blocks and permanently clipping it in place at the bottoms of the insulators. There are three approaches applied: workers access each pole on foot and climb the poles to clip the wires; workers clip wires from bucket trucks; or workers access the poles from a helicopter. The bucket truck access requires that crane mats remain in place or are repositioned to support the equipment. If there has been a temporal lag between pole installation and clipping, mats may have been removed after pole installation and may need to be brought back for the clipping work. The bucket truck method of clipping is preferred because it is generally more efficient than climbing the poles. Depending on the program schedule and access difficulties, workers may be flown in by helicopter, eliminating the need for access by the bucket trucks.

*18.) Complete the Construction Inspection and Energize the Line*

After wire is pulled and clipped into place, a construction inspector checks the newly installed line for construction deficiencies. Any deficiencies that are found during the final construction inspection will be fixed by a construction "clean-up" crew. These crews typically require limited use of heavy equipment, and reach program poles from the construction access way on foot. Impacts from these crews will be minimal to none. Once engineers have determined that the transmission line is in place and conductor is connected at each substation, the line is energized and brought into service.

*19.) Complete the Final Restoration and Walk-Through*

The construction access ways and conductor-pulling setup locations within wetlands will be restored as closely as possible to pre-construction conditions in accordance with Section 9.0 of the Environmental Guidelines (see Exhibit 3 of the MPRP Application). Contours and drainages will be restored. Disturbed wetland soils will be mulched with straw for final restoration. Upland areas are seeded with a suitable annual seed mix and mulched with hay, as necessary. Excess or stray construction debris (litter, hardware, bracing) that was not collected during construction will be removed from the corridor and disposed of at a licensed recycling or solid waste disposal facility. No materials will be burned or buried within the corridor. Erosion and sedimentation controls will be installed as needed and maintained through the duration of the restoration efforts. These devices will be removed once the area has enough vegetation to stabilize the area.

CMP personnel and/or qualified representative(s) such as the MPRP Environmental Inspector will walk through the corridor and check for any potential erosion problems or areas that require further restoration to pre-existing conditions. Any problem areas will be permanently stabilized.

### ***Construction Schedule***

MPRP construction commenced during the summer of 2010, and construction of the entire project is expected to require approximately 4 years. In the Town of Bowdoinham, construction is currently scheduled to begin during the spring of 2012, as summarized below. This proposed schedule should be considered preliminary, and is subject to change. Since the MPRP is expansive in its geographic scope, complex from an engineering and permitting perspective, and requires careful implementation to maintain electrical service and cost-effectiveness, schedule adjustments will be necessary throughout construction.

#### **MPRP Preliminary Construction Schedule in Bowdoinham:**

- 1.) Remove existing Section 81, Spring 2012
- 2.) Construct Section 81/377 steel monopoles, Spring 2012
- 3.) Construct Section 81/377 lattice towers at the Abagadasset River crossing, Fall 2012
- 4.) Complete vegetation maintenance, Fall 2012
- 5.) Construct lattice tower at the Kennebec River crossing, Winter 2012/2013
- 6.) String Section 375 at Abagadasset River crossing, Winter 2013
- 7.) String new Section 81 conductor at Abagadasset River crossing, Winter/Spring 2013

The MPRP construction must be phased in order to avoid disruption to electrical service and facilitate interconnects with other MPRP components or existing infrastructure. Removal of the Section 81 structures will require approximately 4 to 6 weeks. The new Section 81/377 steel monopole construction will require approximately 4 to 6 weeks. Each of the three new lattice towers will require approximately 12 weeks to construct. The Section 375 and Section 81 conductors will each require approximately one week to string.

CMP has consulted with the Town of Bowdoinham, farmers, and other stakeholders in order to try to schedule construction so that it minimizes impacts to the community and to abutters. Specifically, construction has been scheduled to avoid overlaps with the farming season and the bald eagle nesting season, and to maximize the use of the heaviest construction equipment during times of the year when frozen ground conditions are most likely. As the construction schedule is finalized, CMP will continue to work with the community to minimize impacts to agriculture and public roads.

### ***Bowdoinham Zoning Districts and Applicable Standards***

The MPRP will be constructed in the Residential/ Agricultural District and the Shoreland Zoning District. Table 4.1 in Article 4 of the Town of Bowdoinham Land Use Ordinance (“Land Use Ordinance”) classifies the MPRP as “non-roadside or cross-country distribution lines (greater than 34.5 kV)”, which is a permitted use with site plan review approval. Table 5.1 in Article 5 of the Land Use Ordinance classifies the MPRP as an “Essential Service”, which is also a permitted

use in the Shoreland Zoning District with planning board approval. Accordingly, CMP is seeking Site Plan Review and Shoreland Zoning approval from the Bowdoinham Planning Board to construct the MPRP.

The MPRP will also cross seven Federal Emergency Management Act (FEMA) “Zone AE” flood zones. Within the FEMA flood zone boundary, five new transmission line structures will be constructed, existing transmission line structures will be removed, vegetation maintenance will occur, and temporary access ways will be utilized. CMP will obtain a Flood Hazard Development Permit from the Code Enforcement Officer, or a written determination that no permit is necessary, in accordance with Article 8 of the Land Use Ordinance.

**Land Use Ordinance Articles 6, 7, 8, and 10  
Performance Standards and Criteria**

## **Introduction**

Within the following discussion of the MPRP's compliance with the standards and criteria of the Town of Bowdoinham Land Use Ordinance, those relevant to the entire project area are discussed first (Article 6 - Performance Standards, Article 10 - Site Plan Review), followed by those that are relevant to specific areas of the project (Article 7 - Shoreland Zoning, Article 8 - Floodplain Management).

## **Article 6: Performance Standards**

### **A. Access Management**

No new roads or permanent access ways are proposed as part of the MPRP in Bowdoinham. Temporary access ways, which do not add any impervious surface area, will be established within the MPRP corridor for use during the construction phase. Temporary access ways are equipment paths approximately 20 feet wide suitable for the passage of equipment such as excavators, cranes, and other equipment. The temporary access ways will be created by trimming back tall shrubs and saplings to ground level. Roots will be left in place, unless existing large stumps that would pose a travel hazard for equipment are present. In most cases, herbaceous growth and low-compact shrubs will not be trimmed. Grading along the access ways will be limited to areas where minor grading is needed to facilitate safe equipment access. Establishment of temporary access ways is a construction necessity that will be an ongoing process as access to areas undergoing immediate construction becomes necessary. Access paths will be temporary and will be removed once construction is complete.

The proposed location of the MPRP temporary access ways is shown on the Project Scope and Natural Resources Maps provided in Exhibit 1. Temporary access ways will be located where there is sufficient sight distance for equipment to safely egress the transmission corridor. Surface drainage adjacent to and along connecting public roads will be maintained during and subsequent to construction.

### **B. Back Lots**

No new back lots are proposed.

### **C. Erosion and Sedimentation Control**

Ground disturbance associated with the MPRP will be limited to the immediate vicinity of the transmission line structure placements and the impacts associated with temporary access ways. CMP will require contractors to utilize its “Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects” (2010) during construction (see Exhibit 3). This manual is a reference for contractors that contains erosion and sedimentation control requirements, standards, and methods that will be used to protect soil and water resources during construction of the various MPRP components. The Environmental Guidelines were developed in consultation with the MDEP and are largely based on the DEP’s *Maine Erosion and Sediment Control BMPs*, dated March 2003, and DEP’s Chapter 500 Stormwater Management Rules, and contains specific Best Management Practices appropriate for electric transmission line construction. These guidelines will be followed during the construction of transmission line. Adherence to these guidelines and state and federal environmental permit conditions will be monitored by a CMP environmental representative during project construction.

Temporary access ways, which do not add any impervious surface area, will be established within the MPRP corridor for use during the construction phase. Temporary access ways are

equipment paths approximately 20 feet wide suitable for the passage of equipment such as excavators, cranes, and other equipment. The temporary access ways will be created by trimming back tall shrubs and saplings to ground level. Roots will be left in place, unless existing large stumps that would pose a travel hazard for equipment are present. In most cases, herbaceous growth and low-compact shrubs will not be trimmed. Grading along the access ways will be limited to areas where minor grading is needed to facilitate safe equipment access.

Establishment of temporary access ways is a construction necessity that will be an ongoing process as access to areas undergoing immediate construction becomes necessary. All access paths will be temporary and will be removed once construction is complete. Subsequent to construction, areas where soils have been disturbed will be seeded (depending on location and construction timing) and mulched with straw or hay. Vegetation will be allowed to re-establish itself once the temporary access ways have been removed. Subsequent to construction there will be no new permanent roads or driveways associated with the project, other than CMP-maintained access points and ways suitable for routine and urgent maintenance by its own vehicles. The proposed temporary construction access ways will not have an unreasonable negative impact on the town road system. The proposed temporary access ways will provide safe access to and from the construction area.

#### **D. Home Occupation**

The MPRP does not constitute a home occupation.

#### **E. Lighting**

The necessary transmission line structure lighting in the Town of Bowdoinham will be determined in consultation with the Federal Aviation Administration (FAA) in order to comply with federal law. Although consultations with the FAA are not yet complete, CMP's present understanding is that the FAA will require lights on the new lattice towers that will be constructed at the crossing of the Abagadasset River and Kennebec River. These include lattice towers 375-415, 375-416, and 377-164. The anticipated lighting configuration for these structures will comprise white strobe lights that flash during the day and red lights that are illuminated continuously, generally at night. Side lights will be installed at set intervals along the tower height. The lighting is designed for aviation safety and will be installed at 200 feet above ground level and higher. The lighting is not designed to illuminate the surrounding area.

#### **F. Road Standards**

No new roads or permanent access ways are proposed as part of the MPRP in Bowdoinham. Temporary access ways, which do not add any impervious surface area, will be established within the MPRP corridor for use during the construction phase. Temporary access ways are equipment paths approximately 20 feet wide suitable for the passage of equipment such as excavators, cranes, and other equipment. The temporary access ways will be created by trimming back tall shrubs and saplings to ground level, where necessary. Roots will be left in place, unless existing large stumps that would pose a travel hazard for equipment are present. In most cases, herbaceous growth and low-compact shrubs will not be trimmed. Grading along the

access ways will be limited to areas where minor grading is needed to facilitate safe equipment access. Establishment of temporary access ways is a construction necessity that will be an ongoing process as access to areas undergoing immediate construction becomes necessary. All access paths will be temporary and will be removed once construction is complete. The proposed location of the MPRP temporary access ways is shown on the Project Scope and Natural Resources Maps provided in Exhibit 1.

### **G. Subsurface Wastewater Disposal**

No new subsurface wastewater disposal systems are proposed as part of the MPRP. During construction portable toilets will be available for construction crews, which will be transported and maintained by a licensed wastewater hauling company.

### **H. Signs**

No signs are proposed as part of the MPRP.

### **I. Temporary Buildings**

The contractor may establish a field office in the vicinity of the transmission corridor in the Town of Bowdoinham. This office may be established in an existing permanent building, or in a portable and temporary office trailer. Temporary buildings that may be used will be located in accordance with the necessary building setbacks required by the Land Use Ordinance and will be located outside of protected natural resources.

### **J. Timber Harvesting**

Some conversion of forested areas and smaller stands of trees to a shrub-meadow cover type will be necessary to accommodate the proposed construction. Specifically, tree removal and forest conversion will occur in the vicinity of structures 375-414, 375-415, 375-416, and 375-417 to maintain clearances between transmission lines and trees for safety and reliability purposes. Tree removal will be conducted in accordance with the best management practices specified in the Environmental Guidelines provided in Exhibit 3, and also with all applicable state laws, rules, and standards.

In Bowdoinham, the MPRP corridor is an existing cleared opening that has been routinely maintained by CMP in a shrub-meadow cover type (or maintained by others as agricultural land) for decades. CMP will also continue to implement existing corridor management procedures, which are to remove vegetation safety hazards and transmission reliability risks. Saplings and shrubs that are capable of growing tall enough to interfere with the transmission lines (so-called “capable species”) are presently maintained by CMP on a four-year cycle. The removal of mature “danger trees” is also occasionally necessary. Danger trees are trees that are large enough and positioned in such a manner that they could fall into the conductor, thereby posing a severe reliability risk. The removal of danger trees is a relatively infrequent activity. Non-capable species are allowed to remain to ensure that the corridor is vegetated, which prevents erosion and provides wildlife habitat.

**K. Vernal Pools**

CMP has conducted vernal pool surveys within the MPRP work area in the Town of Bowdoinham. Two vernal pools that meet the State of Maine Natural Resources Protection Act standards for significant wildlife habitat were identified within the existing CMP transmission corridor. Although construction activities will occur within 250 of these vernal pools, the vernal pool depressions will not be permanently impacted, and the existing transmission line corridor will not be expanded, so the vernal pools will continue to function as they presently do subsequent to project construction.

CMP has also completed extensive consultations with the Maine Department of Environmental Protection, Maine Department of Inland Fisheries & Wildlife (IF&W), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Army Corps of Engineers regarding vernal pool impacts within the MPRP project area. As a result of these consultations and CMP's efforts to avoid and minimize impacts to vernal pools, the DEP has issued the Site Location of Development Law and Natural Resources Protection Act permit approvals needed to commence project construction. The ACOE has also issued a Clean Water Act Section 404(b) Permit for the MPRP. In conclusion, as a permitted activity, the proposed MPRP activities within 250 feet of the vernal pool will be in compliance with all applicable state laws, rules, and standards.

**L. Water Quality Protection**

During construction, fuel (diesel and unleaded gasoline) and hydraulic and lubricating oils will be used in the operation of vehicles and construction equipment. Small quantities of such materials may be kept in vehicles for use in refueling and maintenance of construction equipment. All refueling activities will be located at least 100 feet from wetlands, water bodies, and streams.

If temporary fuel storage is necessary in Bowdoinham, all fuel will be located at least 100 feet from wetlands, water bodies, and streams, and at least 200 feet from a private water supply. Furthermore, as specified in the "Environmental Control Requirements For Contractors and Subcontractors of Central Maine Power Company – Oil and Hazardous Material" (Environmental Controls) (see Exhibit 5) all gasoline and fuel storage tanks will have secondary containment constructed of impervious material that will be capable of holding 110% of the storage tank capacity. Petroleum based products will be stored in Department of Transportation approved containers. Hazardous waste will not be generated or stored in the transmission corridor subsequent to construction.

After construction, the transmission line corridor will continue to be maintained in the same manner as it currently is to encourage a shrub-meadow cover type. Trees and capable species will be removed for safety and reliability reasons. CMP will continue to use a selective herbicide program to treat an area once every four years to maintain an early successional stage of growth. Herbicide is selectively applied (using a low-pressure backpack applicator) to capable species to prevent growth (or re-growth of a cut plant) of individual plants. CMP does not use herbicides within at least 25 feet of any waterbody or wetland with standing water, or within 100 feet of known well at the request of the well-owner. Crew forepersons are certified

by the Maine Pesticide Control Board, and all herbicides are Environmental Protection Agency (EPA) registered. The selective use of herbicides within the transmission line corridor does not pose a threat to groundwater quality.

Although capable species of vegetation will be removed within the proposed area of corridor expansion, the corridor will remain vegetated, so no increase in stormwater runoff will occur as a result of the MPRP. No discharge of effluent will occur during construction, and contractors will adhere to the Environmental Guidelines and Environmental Controls, so the MPRP will not impact the quality of surface waters.

**M. Wind Mills**

No wind mills are proposed as part of the MPRP.

## Article 10: Site Plan Review

### B. Site Plan Review Procedures

#### 5. Application Submission Requirements

- a) Submission Requirements for Tier I projects.

Not applicable. This application is for a Tier II project.

- b) Submission Requirements for Site Inventory and Analysis. (Tier III applications only)

Not applicable. The square footage of new impervious surfaces related to the project will be less than approximately 5,000 square feet. It is possible that the new impervious surface area will be considerably less than that, depending on the type of foundations used for the three new lattice towers. In either case, the square footage of the new impervious surface area will be considerably less than the 20,000 square foot threshold for Tier III review. Therefore, this application is for a Tier II project, although the information provided in this application does address most, if not all, of the information specified for a site inventory and analysis.

- c) Submission Requirements for Tier II and Tier III Site Plan Review Applications

- (i) Applications for site plan review must be submitted on application forms provided by the Town.

A Planning Board Application Form is provided at the front of this application.

- (ii) Projects classified as Tier II projects shall go through a simplified review process.

- (iii) The Planning Board shall have the authority to waive any review standards if it finds they are inapplicable to Tier II projects.

- (iv) The submission must contain at least the exhibits and information specified in this section, unless specifically waived in writing.

- (v) All applications for site plan review must contain the following information:

- (A) a fully executed and signed copy of the application for development review;

A Planning Board Application Form is provided at the front of this application.

- (B) evidence of payment of the application and technical review fees; and

A check for \$500 has been provided to pay the Site Plan Review application fee.

- (C) Eleven (11) copies of written materials plus eleven (11) sets of maps or drawings. The maps or drawings must be at a scale sufficient to allow review of the items listed under approval criteria:

Eleven copies of this application have been provided.

- (1) forty (40) feet to the inch is preferred, but in no case shall the scale exceed one hundred (100) feet to the inch for that portion of the tract of land being proposed for development.

Mapping has been provided in Exhibit 1. Due to the linear nature of the project, and to facilitate review, project mapping has been provided at a scale of 100 feet to the inch and 300 feet to the inch.

(2) General Information.

- a. record owner's name, address, and phone number and applicant's name, address and phone number, if different.

Same as the applicant.

- b. the location of all required building setbacks, yards, and buffers.

No buildings are proposed.

- c. names and addresses of all property owners within two hundred (200) feet of any and all property boundaries.

A list of abutters within 500 feet of the project area is provided in Exhibit 6.

- d. sketch map showing general location of the site within the municipality based upon a reduction of the tax maps.

A Project Overview Map is provided in Exhibit 1.

- e. boundaries of all contiguous property under the total or partial control of the owner or applicant regardless of whether all or part is being developed at this time.

Tax map parcel boundaries are shown on the Project Scope and Natural Resource Maps and Project Scope and Shoreland Zoning Maps provided in Exhibit 1.

- f. the tax map and lot number of the parcel or parcels on which the project is to be located.

Provided on the Planning Board Application Form at the front of this document.

- g. a copy of the deed to the property, an option to purchase the property or other documentation to demonstrate right, title or interest in the property on the part of the applicant.

A tabular summary of CMP's right, title, or interest in the project area is provided in Exhibit 7. One copy of a binder containing deeds and easements to project area land has also been submitted to the Planning Board with this application.

- h. the name, registration number and seal of the person who prepared the plan, if applicable.

Not applicable.

- i. cost of the proposed development.

The estimated cost to construct the MPRP in Bowdoinham is \$3,150,000.

- j. evidence of the applicant's financial capacity to complete it. This evidence should be in the form of a letter from a bank or other source of financing indicating the name of the project, amount of financing proposed or available, and individual's or institution's interest in financing the project or in the form of a letter from a certified accountant or annual report indicating that the applicant has adequate cash flow to cover anticipated costs.

See response to Article 10, land use standard "15. Capacity of Applicant".

- k. evidence of the applicant's technical capability to carry out the project as proposed.

See Article 10, land use standard "15. Capacity of Applicant".

(3) Existing Conditions Plan including the following:

- a. zoning classification(s), including overlay and/or subdistricts, of the property and the location of zoning district boundaries if the property is located in two (2) or more zoning districts or subdistricts or abuts a different district.

The MPRP will be constructed in the Residential/ Agricultural District. Shoreland Zoning Districts will be crossed and are shown on the Project Scope and Shoreland Zoning Mapping in Exhibit 1.

- b. the bearings and length of all property lines of the property to be developed and the source of this information.

CMP is requesting a waiver from this requirement due to the linear nature of the project. The proposed work is located within CMP's existing transmission corridor. Prior to the start of construction, the deed-referenced transmission corridor "center line" will be located and staked by a Professional Land Surveyor. The Professional Land Surveyor will also locate and flag the corridor sidelines as described in the deed.

- c. location and size of any existing sewer and water mains, culverts and drains, on-site sewage disposal systems, wells, underground tanks or installations, and power and telephone lines and poles on the property to be developed and on abutting streets or land that may serve the development and an assessment of their adequacy and condition to meet the needs of the proposed use. Appropriate elevations must be provided as necessary to determine the direction of flow.

Not applicable.

- d. location, names, and present widths of existing public and/ or private streets and rights - of-way within or adjacent to the proposed development.

See mapping in Exhibit 1.

- e. The location, dimensions and ground floor elevation of all existing buildings on the site.

CMP is requesting a waiver from this requirement due to the nature of the project.

- f. the location and dimensions of existing driveways, parking and loading areas, walkways, and sidewalks on or immediately adjacent to the site.

See orthophotography-based mapping in Exhibit 1.

- g. location of intersecting roads or driveways within two hundred (200) feet of the site.

See mapping in Exhibit 1.

- h. the location of open drainage courses, wetlands, stonewalls, graveyards, fences, stands of trees, and other important or unique natural areas and site features, including but not limited to, floodplains, deer wintering areas, significant wildlife habitats, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, sand and gravel aquifers, and historic and/ or archaeological resources, together with a description of such features.

See mapping in Exhibit 1, the project description at the front of this application, and discussion of pertinent land use standards.

- i. the direction of existing surface water drainage across the site, and any off-site drainage facilities that will be used.

Not applicable. The transmission corridor is vegetated and generates minimal runoff. Water resource features and ten foot land contours shown on the Project Scope and Shoreland Zoning Maps in Exhibit 1 can be used to determine the general direction of surface water drainage in the project area.

- j. the location, front view, dimensions, and lighting of existing signs.

Not applicable.

- k. location and dimensions of any existing easements and copies of existing covenants or deed restrictions.

See tabular summary of right, title, or interest in Exhibit 7. With the submittal of this application one copy of a binder of project area deeds and easements has also been provided to the Planning Board.

1. the location of the nearest fire hydrant or other water supply for fire protection.

CMP requests a waiver of this requirement due to the nature of the project, and its proximity to large bodies of water, which could potentially be used as an emergency source of water for fire protection.

(4) Proposed Development Activity

- a. estimated demand for water supply and sewage disposal, together with the location and dimensions of all provisions for water supply and wastewater disposal, and evidence of their adequacy for the proposed use, including soils test pit data if on-site sewage disposal is proposed.

Not applicable.

- b. the direction of proposed surface water drainage across the site, and from the site, with an assessment of impacts on downstream properties.

Not applicable. No significant or permanent changes to existing topography, land contours, and surface water drainage are proposed. The transmission corridor is vegetated and generates negligible runoff. Water resource features and ten foot land contours shown on the Project Scope and Shoreland Zoning Maps in Exhibit 1 can be used to infer the general direction of surface water drainage in the project area.

- c. provisions for handling all solid wastes, including hazardous and special wastes, and the location and proposed screening of any on-site collection or storage facilities.

Not applicable.

- d. the location, dimensions, and materials to be used in the construction of proposed driveways, parking and loading areas, and walkways and any changes in traffic flow onto or off-site.

Not applicable.

- e. a grading plan showing the existing and proposed topography of the site at two (2) foot contour intervals, or such other interval as the Planning Board may determine

No significant or permanent changes to the existing topography and contours in the project area are proposed. Ten foot contour intervals are shown on the mapping in Exhibit 1. CMP requests the Planning Board waive the requirement of two foot contour intervals due to the nature of the project.

- f. proposed landscaping and buffering.

Where required by DEP permit conditions, at selected transmission line road crossings CMP will establish vegetative visual buffers. Therefore, CMP requests a waiver of additional landscaping and buffering requirements due to the nature of the project.

- g. the location, dimensions, and ground floor elevation of all proposed buildings or building expansion proposed on the site.

Not applicable.

- h. location of proposed signs together with the method for securing the sign.

Not applicable.

- i. location and type of exterior lighting.

See the discussion of Article 6, land use standard “E. Lighting”.

- j. the location of all utilities, including fire protection systems.

Not applicable.

- k. a general description of the proposed use or activity.

See the project description at the front of this application.

- l. an estimate of the peak hour and daily traffic to be generated by the project.

Not applicable.

- m. the existing and proposed method of handling stormwater runoff, erosion and sedimentation control measures, and water quality and/or phosphorous export management provisions.

The project will not generate a significant change or increase in stormwater runoff. Erosion and sedimentation measures are addressed in this application in the Construction Sequencing narrative at the front of the application, in Exhibit 3, and in responses to various land use standards.

- n. A written statement from any utility district providing service to the project as to the adequacy of the water supply in terms of quantity and pressure for both domestic and fire flows.

Not applicable.

- o. Approval Block. Space must be provided on the plan drawing for the signatures of the Planning Board and date together.

A copy of the Project Scope and Natural Resource Maps and Project Scope and Shoreland Zoning Maps in Exhibit 1 with signature blocks added will be submitted to the Planning Board at the appropriate time.

(5) Additional Submission Requirements for Tier III Applications

Not applicable. This application is for a Tier II project.

(6) Waiver of the Submission Requirements. The Planning Board may waive any of the submission requirements based upon a written request of the applicant. Such request must be made at the time of the Site Inventory & Analysis review or at the initial review of the application if there is no Site Inventory & Analysis review. A waiver of any submission requirement may be granted only if the Board finds that the information is not required to determine compliance with the standards and criteria.

Waiver requests are specified above. Items that are not applicable to the project are also noted.

**D. General Performance Standards**

**1. Vehicular Access**

The MPRP will not result in appreciable traffic generation. Some construction traffic will be generated, as is typical with any development project. This traffic will be temporary and will not have a significant impact on area roadways.

During construction, the few vehicles that will need to access the corridor will do so from maintained corridor access points where the corridor crosses existing public roads, as is presently done for routine and urgent maintenance. These areas are located where the MPRP corridor crosses Center's Point Road, Brown's Point Road, Pork Point Road, and Stevens Road.

The proposed vehicular access locations are shown on the Project Scope and Natural Resources Maps provided in Exhibit 1. Access points will be located where there is sufficient sight distance for equipment to safely egress the transmission corridor. Surface drainage adjacent to and along connecting public roads will be maintained during and subsequent to construction.

With regard to the use of public roads to access the project area, CMP recognizes that the Town of Bowdoinham would like heavy equipment and heavy truck traffic between Route 24 and the Brown's Point Road crossing of the Abagadasset River Bridge to be minimized, and avoided when possible, due to the potential for damaging this recently refurbished section of road. Accordingly, heavy equipment and heavy truck traffic will use Route 24 and Pork Point Road as the primary means of accessing the project area, which CMP understands is preferred by the Town. However, because of possible weight limitations on the Abagadasset River Bridge and construction necessities, some heavy equipment will need to travel along Brown's Point Road between Route 24 and the Abagadasset River bridge.

## **2. Internal Vehicular Circulation**

The proposed temporary access ways within the CMP transmission corridor will provide efficient and direct construction access to transmission line structure locations within the corridor. Temporary access ways have been located to minimize travel distances, maintain safety, avoid and minimize impacts to protected natural resources, and fit existing site topography.

The temporary access ways will be created by trimming back tall shrubs and saplings to ground level. Roots will be left in place, unless existing large stumps that would pose a travel hazard for equipment are present. In most cases, herbaceous growth and low-compact shrubs will not be trimmed. Grading along the access ways will be limited to areas where minor grading is needed to facilitate safe equipment access.

## **3. Pedestrian Circulation**

Where CMP owns the transmission corridor in fee, CMP has a policy of generally allowing the public to use its corridors for recreational activities, such as walking, and this will remain unchanged by the proposed project. Where CMP's transmission corridor is located within an easement, the decision to allow public access to the corridor rests with the underlying property owner.

## **4. Municipal Services**

Due to the nature of the project, the MPRP will not increase the need for municipal services in the Town of Bowdoinham.

## **5. Visual Impact**

A guiding principle in the design of the MPRP has been to utilize CMP's existing transmission line corridors to the maximum extent practicable. Co-location of the transmission line upgrades, as opposed to the creation of new corridors, has multiple benefits, including the minimization of impacts to communities, individual property owners, and the environment. Only where existing corridors cannot accommodate the proposed upgrades while meeting safety and reliability standards is CMP seeking to widen the existing corridors. Creating an entirely new corridor is a last resort.

Within the Town of Bowdoinham, the proposed transmission line construction will occur within an existing CMP transmission corridor. The existing transmission corridor will not be widened. Co-locating with the existing transmission corridor avoids construction of new transmission corridor, which helps to maintain the existing landscape and land use patterns. Because the existing transmission line corridor contains existing transmission line structures of comparable bulk and height as those that are proposed, co-locating with the existing transmission corridor causes the least overall visual impact to the landscape.

## **6. Lighting**

The necessary transmission line structure lighting in the Town of Bowdoinham will be determined in consultation with the Federal Aviation Administration in order to comply with federal law. Although consultations with the FAA are not yet complete, CMP's present understanding is that the FAA will require lights on the new lattice towers that will be constructed at the crossing of the Abagadasset River and Kennebec River. These include lattice towers 375-415, 375-416, and 377-164. The anticipated lighting configuration for these structures will comprise white strobe lights that flash during the day and red lights that are illuminated continuously, generally at night. Side lights will be installed at set intervals along the tower height. The lighting is designed for aviation safety and will be installed at 200 feet above ground level and higher. The lighting is not designed to illuminate the surrounding area.

## **7. Signage**

No signage is proposed or necessary.

## **8. Buildings**

No buildings are proposed or necessary.

## **9. Landscaping**

The MPRP does not include new parking areas, grounds, or streets in need of landscaping. The proposed construction is co-located with the existing CMP transmission corridor, which will continue to be managed to maintain a shrub-meadow vegetation cover type or utilized for agricultural purposes subsequent to construction.

## **10. Buffering**

The MPRP will be constructed within a CMP service corridor that has been in existence for decades. Transitions from one land use type to another will not change as a result of the MPRP. Furthermore, subsequent to construction the corridor will remain vegetated, although in order to maintain the required minimum operational safety clearances, vegetation within the corridor must be managed to ensure that it does not grow taller than approximately ten feet, as is presently done. In accordance with the MDEP Site Location of Development Law Permit, CMP plans to establish vegetative visual buffers of the transmission corridor comprised of non-capable species at selected locations along Center's Point Road and Brown's Point Road, where these roads intersect with the transmission corridor.

## **11. Utilities**

Due to the nature of the project, utilities such as electrical, telephone, and telecommunication services are not proposed or necessary.

## **12. Water Supply**

Due to the nature of the project, a water supply is not proposed or necessary.

## **13. Sewage Disposal**

Due to the nature of the project, a water supply is not proposed or necessary. During construction portable toilets will be available for construction crews, which will be transported and maintained by a licensed wastewater hauling company.

## **14. Fire Protection**

The MPRP will not require fire protection beyond that which already exists for the existing CMP corridor.

## **15. Capacity of Applicant**

### **a.) Right, Title, and Interest in Property**

CMP's right, title, interest in the property required to construct the MPRP include in-fee ownership and easement. Please refer to Exhibit 7 for a tabular summary. One copy of a binder of project area deeds and easements has also been provided to the Planning Board.

### **b.) Financial Capacity**

Central Maine Power Company (CMP) is a subsidiary of Iberdrola USA, Inc. (formerly Energy East Corporation), which in turn is a subsidiary of Iberdrola, S.A. Iberdrola is Spain's number one energy group, one of the largest electricity companies in the world and a world leader in wind power. Iberdrola operates in more than 40 countries, employs more than 33,000 people worldwide, and has a stock market capitalization in excess of \$30 billion. CMP is a financially strong company with total assets in excess of \$2 billion, credit ratings of BBB+ / Baa1 / BBB+ (from Standard & Poor's, Moody's and Fitch, respectively), strong banking relationships, and access to the investment grade debt capital markets. CMP has short-term revolving credit availability of \$300 million through a bank facility (\$200 million) and under an agreement with Iberdrola USA (\$100 million). CMP has the regulatory authority to have outstanding, at any time, up to \$500 million of unsecured, medium-term notes (MTNs), of which there were \$293 million outstanding at 12/31/10, and has provisional authority to issue up to \$1 billion of first mortgage bonds (FMBs, rated A/A2/A by Standard & Poor's, Moody's and Fitch, respectively), of which there were \$150 million outstanding at 12/31/10.

### **c.) Technical Ability**

CMP has built, operated, and maintained thousands of miles of transmission lines in the State of Maine for over 100 years. Based on this experience, CMP has the technical capability to construct the MPRP. To support the development of the project, CMP has also engaged a

team of highly qualified consultants and contractors to supplement CMP's staff on the MPRP project. All contractors will be required to follow detailed specifications addressing compliance with land use and environmental controls in the construction of the MPRP facilities.

## **16. Special Resources**

### **a.) Shoreland**

The MPRP is in compliance with the Shoreland Zoning provisions of the Land Use Ordinance. Please refer to the following section of this application discussing the provisions of Article 7.

### **b.) Floodplain**

The MPRP is in compliance with the Floodplain Management provisions of the Land Use Ordinance. Please refer to the following section of this application discussing the provisions of Article 8. Prior to the start of MPRP construction, CMP will obtain a Flood Hazard Development Permit from the Code Enforcement Officer, or a written determination that no permit is necessary.

### **c.) Wetlands & Waterbodies**

A guiding principle in the design of the MPRP has been to utilize CMP's existing transmission line corridors to the maximum extent practicable. Co-location of the transmission line upgrades, as opposed to the creation of new corridors, has multiple benefits, including the minimization of impacts to communities, scenic landscapes, individual property owners, and the environment. Only where existing corridors cannot accommodate the proposed upgrades while meeting safety and reliability standards is CMP seeking to widen the existing corridors. Creating an entirely new corridor is a last resort. As a result, the vast majority of the transmission line upgrades proposed as part of the MPRP are located within or immediately adjacent to existing corridors.

CMP's environmental consultants have also conducted wetland, waterbody, vernal pool, botanical, and other environmental surveys within the MPRP transmission corridor. The MPRP has been designed to maintain and preserve such environmentally sensitive areas to the maximum extent practicable through consultations between the MPRP engineering, real estate, and environmental managers. Within the corridor, CMP has, to the greatest extent practicable, sited each structure so as to avoid, and where unavoidable, to minimize, adverse impacts on environmentally sensitive areas. However, due to design considerations such as topographic changes, transmission line sag, road crossings and corridor angle points there are limitations on possible structure locations, and some impacts to natural resources will occur.

As a result of CMP's design and environmental survey efforts, in the Town of Bowdoinham the MPRP will be constructed entirely within existing CMP transmission corridor property. Wetland and waterbody impacts will be limited, and most will be temporary access way crossings during the construction phase.

Where practicable CMP has proposed temporary access ways that avoid environmentally sensitive areas such as wetlands. Due to topographic constraints, structure locations, and environmentally sensitive areas that span the entire corridor width, temporary access ways cannot be sited to avoid all wetlands or environmentally sensitive areas. To mitigate these unavoidable impacts CMP will implement construction best management practices and erosion and sediment control measures specified in its Environmental Guidelines (see Exhibit 3). Some of the mitigation measures that will be implemented include the use of crane mats, temporary bridges, geo-textile fabrics, and culverts, when necessary. If necessary, mats will also be placed parallel to the upland edge as abutments to further protect bank stability.

No extensive grubbing (grading to remove root systems) within wetland crossing areas will be done prior to mat placement. However, some minor grading may be required to ensure mat stability and construction access safety. All such grading will be performed on a limited basis and only with prior approval by CMP's environmental representatives.

The Abagadasset River and Merrymeeting Bay will be entirely spanned by the transmission lines and therefore unaffected by the proposed construction. The only proposed stream crossing is to the west of Center's Point Road, at the location of an existing woods road crossing of a beaver flowage, where the stream is already culverted under the woods road and beaver dam.

During construction a CMP environmental representative will be present to ensure that construction is completed in accordance with all state, local, and federal environmental permits, and that construction activities do not damage environmentally sensitive areas such as wetlands, waterbodies, floodplains, and wildlife habitat.

Permanent wetland impacts are limited to three new transmission line structures that will be constructed within wetlands. These wetland impacts have been reviewed and permitted by the MDEP and the ACOE. Further adjusting the location of the structures is not practicable, because it would require:

- Changing the location of other proposed structures, thereby introducing potential environmental impacts in other areas along the corridor, or;
- Expanding or moving the existing transmission line corridor, or;
- Erecting much taller structures to achieve the required spans over the wetlands, or;
- A combination of these alternatives.

The overall environmental and visual impacts of any of these alternatives would be greater than the impacts associated with the project as planned.

CMP has also evaluated the effect of these proposed construction activities on wetland functions and values. The amount of ground disturbance associated with the three structures within wetlands will be very small, i.e., limited to the immediate vicinity of the pole placements. Loss of wetland will be limited to pole footprints and will therefore be inconsequential to wetland functions and values. Temporary site disturbance within wetlands will generally be of a short duration during construction and will not result in a loss of wetland functions and values over the long-term. There will be no net loss of wetland

functions and values as a result of the MPRP in the Town of Bowdoinham, and wetland and waterbody impacts have been avoided to the maximum extent practicable.

With regard to vernal pools, CMP has conducted vernal pool surveys within the MPRP work area in the Town of Bowdoinham. Two vernal pools that meet the State of Maine Natural Resources Protection Act standards for significant wildlife habitat was identified within the existing CMP transmission corridor. Although construction activities will occur within 250 of these vernal pools, the vernal pool depressions will not be impacted, the existing transmission line corridor will not be expanded, and the vernal pool habitat will not be changed, so the vernal pool will continue to function as it presently does subsequent to project construction. The proposed MPRP activities within 250 feet of the vernal pool will be in compliance with all applicable state laws, rules, and standards.

CMP has also completed extensive consultations with the Maine Department of Environmental Protection, Maine Department of Inland Fisheries & Wildlife, the U.S. Army Corps of Engineers, and other agencies regarding wetland, waterbody, and vernal pool impacts within the MPRP project area. As a result of these consultations and CMP's efforts to avoid and minimize impacts protected natural resources, the MDEP has issued the Site Location of Development Law and Natural Resources Protection Act permit approvals needed to commence project construction. The ACOE has issued a Section 404(b) Permit.

## **17. Historic & Archaeological**

During the past several years, CMP has engaged in extensive consultation with the Maine Historic Preservation Commission (MHPC) regarding the investigation of pre-contact archeological, post-contact archeological, and historic architectural resources within the MPRP area of potential effect (APE) that are listed on or eligible for listing on the National Register of Historic Places (NRHP).

During the period 2008-2010, CMP's consultants conducted reconnaissance level pre-contact and post-contact cultural resource surveys to identify resources that might be impacted by project related activities within the MPRP APE. After consultation with the MHPC regarding the results of the reconnaissance level surveys, CMP conducted more intensive surveys to determine site significance (eligibility for listing in the National Register of Historic Places) on a number of potentially eligible archaeological sites within the APE.

Similarly, during the period 2008-2010, CMP's consultants conducted architectural surveys in accordance with MHPC guidelines to identify any potential historic above-ground structures that are listed on or eligible for listing on the NRHP that are located within the APE and to determine any adverse impacts on those properties from MPRP.

As a result of these surveys, the MHPC determined that there are no eligible or potentially eligible pre-contact or post-contact archaeological sites in Bowdoinham that would be adversely impacted by MPRP. The MHPC also determined that there are no eligible or potentially eligible historic architectural structures in Bowdoinham that would be adversely impacted by MPRP.

## **18. Groundwater**

The MPRP does not include any on-site water supply or subsurface wastewater disposal systems. Groundwater will not be impacted by the MPRP.

## **19. Wildlife Habitat**

As part of the DEP's review of the MPRP Natural Resources Protection Act and Site Location of Development Law Applications, CMP has consulted extensively with IF&W regarding significant wildlife habitats within the MPRP project area. In the Town of Bowdoinham, significant wildlife habitats recognized by IF&W within the MPRP project limits include two significant vernal pools within the existing corridor, tidal waterfowl and wading bird habitat along the shores of the Abagadasset River and Merrymeeting Bay, inland waterfowl and wading bird habitat, and bald eagle habitat along the shores of Merrymeeting Bay.

No construction will occur within the water-holding depression of the vernal pools, and no transmission line structures will be placed within the tidal waterfowl and wading bird habitat, or wetland components of IF&W mapped inland waterfowl and wading bird habitat. At the request of IF&W, bird diverters will be installed on the proposed transmission lines where they cross the Abagadasset River and Merrymeeting Bay.

In accordance with the MDEP Site Location of Development Law and Natural Resource Protection Act Permits, CMP has scheduled construction outside of the bald eagle nesting season to prevent disturbance to nesting eagles. CMP will also conduct pre-construction aerial surveys of the MPRP transmission corridor vicinity to identify any new bald eagle nests established between now and construction, and that could potentially be affected by construction. Based on the results of the aerial surveys and in consultation with IF&W, CMP will modify the construction schedule as necessary to avoid impacts to nesting bald eagles. In conclusion, impacts to significant wildlife habitat have been fully addressed through consultations with IF&W as part of the MPRP's Natural Resources Protection Act and Site Location of Development Act permit applications with the DEP. The DEP has issued a NRPA Permit and a Site Law Permit for the MPRP.

## **20. Natural Areas**

CMP has also been in consultation with the Maine Natural Areas Program (MNAP) regarding rare plants and natural communities within the MPRP project area. CMP's environmental consultants developed a methodology to review the MPRP project area for rare plants and natural communities through the consultations with MNAP. This methodology involved review of existing databases, aerial photograph analysis, and targeted on-site field surveys. MNAP has determined that CMP's approach to addressing rare plant and exemplary natural community concerns in the MPRP project area is satisfactory (correspondence provided in Exhibit 8).

Using the MNAP approved methodology, a rare freshwater tidal marsh containing six rare plant species was identified within the MPRP project area along the mouth of the Abagadasset River. The rare plants that were identified were located below the Abagadasset River embankment, and

were within the regularly inundated portion of the freshwater tidal marsh. No new transmission line structures will be located in this freshwater tidal marsh area, although one new transmission line structure (375-416) will be located within a contiguous section of forested wetland, and tree removal will occur within this contiguous forested wetland.

Limited work involving removal of the existing Section 81-101 structure adjacent to Brown's Point Road will also occur directly adjacent to the freshwater tidal marsh. This work would occur where the existing pole is located, just above the normal high water line of the Abagadasset River in a scrub-shrub wetland that is contiguous to the freshwater tidal marsh. The work would involve cutting the existing pole just above existing grade, and removing the aboveground portion of the pole. With the use of construction mats and low impact construction techniques, the proposed work will have a minimal short term impact on the wetland.

## **21. Environmental Impact**

A guiding principle in the design of the MPRP has been to utilize CMP's existing transmission line corridors to the maximum extent practicable. Co-location of the transmission line upgrades, as opposed to the creation of new corridors, has multiple benefits, including the minimization of impacts to communities, scenic landscapes, individual property owners, and the environment. In the Town of Bowdoinham the MPRP will be constructed entirely within an existing CMP transmission corridor.

The existing CMP transmission corridor is presently maintained in a shrub-meadow cover type or used for agricultural purposes. Although most of the corridor is presently maintained as open land, trees will be removed from selected areas of CMP's corridor in order to accommodate the double circuit tower separation. Trees that pose a safety threat or reliability risk to existing or proposed transmission lines or structures will also need to be removed prior to construction. The corridor will continue to be maintained in a shrub-meadow cover type or used for agricultural purposes subsequent to construction.

The proposed transmission line structures and temporary construction access ways have also been designed to maintain and preserve existing land contours and vegetation, minimize soil disturbance, and avoid environmentally sensitive areas to the maximum extent practicable through consultations between the MPRP engineering, real estate, and environmental managers. Within the corridor, CMP has, to the greatest extent practicable, sited each structure so as to work with the existing landscape and to avoid, and where unavoidable, to minimize, adverse impacts on environmentally sensitive areas. No extensive grading, filling, or paving is proposed, so existing drainage patterns and infiltration capacity will not be significantly impacted by the MPRP.

During construction environmental compliance staff will be present to ensure that construction is completed in accordance with all state, local, and federal environmental permits, and that construction activities do not damage environmentally sensitive areas such as wetlands, waterbodies, floodplains, and wildlife habitat by implementing construction best management practices and erosion and sediment control measures specified in its Environmental Guidelines (see Exhibit 3). Some of the mitigation measures that will be implemented include the use of silt

fencing and hay bales, crane mats, temporary bridges, geo-textile fabrics, and culverts, when necessary. If necessary, mats will also be placed parallel to the upland edge as abutments to further protect bank stability. No extensive grubbing (grading to remove root systems) within wetland crossing areas will be done prior to mat placement. However, some minor grading may be required to ensure mat stability and construction access safety. All such grading will be performed on a limited basis and only with prior approval by environmental compliance representatives.

CMP has also completed extensive consultations with the MDEP, IF&W, ACOE, and other agencies regarding wetland, waterbody, and vernal pool impacts within the MPRP project area. As a result of these consultations and CMP's efforts to avoid and minimize impacts protected natural resources, the DEP has issued the Site Location of Development Law and Natural Resources Protection Act permit approvals needed to commence project construction. The ACOE has also issued Clean Water Act Section 404(b) Permit for the MPRP.

## **22. Solid Waste Management**

CMP anticipates that solid waste generated from the project will be limited to minimal land clearing and construction debris generated during the construction phase. In accordance with CMP's "Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects" (2010) (see Exhibit 3), the transmission corridor will be maintained and left each day in a safe and sanitary manner during construction. Excess or leftover construction materials and garbage will be removed from the transmission corridor before construction of the MPRP is completed. This debris is inert, non-hazardous material that will be handled in accordance with the Maine State Solid Waste Management and Recycling Law (38 M.R.S.A. § 2101 et seq). All personnel and affiliates contracted for work as part of the MPRP will utilize best management practices (BMPs) and CMP protocol. CMP will monitor the disposal of all solid waste material including paper documentation of waste streams. CMP will contract with a licensed waste hauler, which will transport solid waste to an appropriate and licensed facility.

Subsequent to construction, the MPRP will not increase solid waste generation, and will not cause an unreasonable burden on the Town's ability to dispose of solid waste.

## **23. Hazardous, Special, & Radioactive Materials**

- a.) With the potential exception of fuels, lubricants, and blasting materials, during construction no hazardous, special, or radioactive materials will be used within the MPRP transmission corridor. Subsequent to construction, the electric transmission line corridor will continue to be maintained in the same manner as it currently is to encourage a shrub-meadow cover type. Trees and capable species will be removed for safety and reliability reasons. CMP will continue to use a selective herbicide program to treat an area once every four years to maintain an early successional stage of growth. Herbicide is selectively applied (using a low-pressure backpack applicator) to capable species to prevent growth (or re-growth of a cut plant) of individual plants. CMP does not use herbicides within at least 25 feet of any waterbody or wetland with standing water, or

within 100 feet of known well at the request of the well-owner. Crew forepersons are certified by the Maine Pesticide Control Board, and all herbicides are EPA registered. The selective use of herbicides within the transmission line corridor does not pose a threat to groundwater quality. At the request of and under agreement with a landowner, CMP may agree to not apply herbicides within the corridor, provided that the landowner keeps the transmission corridor free of capable species.

- b.) During construction of the MPRP, potentially flammable or explosive materials that may be used within CMP's transmission corridor include blasting materials and petroleum based fuels and lubricants. As discussed in more detail in the following paragraphs, these materials will be stored and handled in accordance with all applicable state and federal regulations. With regard to municipal standards for storage of potentially explosive materials during construction, contractors will avoid storing such materials within 75 feet of any developed abutting property, town way, or interior roadway when possible. Subsequent to construction no highly flammable or explosive materials will be stored within CMP's transmission corridor in the Town of Bowdoinham.

#### Blasting Materials

During construction it is possible that soils with a shallow depth to bedrock and subsurface boulders will be encountered. Blasting may be required in order to place transmission line structures in these areas. For transmission line construction, blasting activity will be limited to the small volume of material needed to be removed to fit and plumb the pole structures. No adverse effects from blasting activity upon either sensitive natural resources or adjacent property owners are anticipated due to the small charges required for this activity.

The construction contractor or blasting subcontractor shall ensure that transportation, storage and use of explosives is in accordance with federal and state regulations and the stipulations contained in applicable permits. The construction contractor or blasting subcontractor shall also provide CMP with all copies of permits obtained by the construction contractor or blasting subcontractor prior to commencement of blasting operations. Transportation of explosive materials will be conducted in accordance with the following standards and protocols:

- Vehicles used for the transportation of explosives shall not be loaded beyond rated capacity for the vehicle.
- Explosives shall be transported in vehicle(s) with covered body(s) to prevent dislodgment from the vehicle.
- Explosives vehicles shall be marked with reflective signs on both sides and on the front and rear, bearing the word "EXPLOSIVES" in red letters on a white background in addition to the diamond-shaped signs listing the class of explosives.
- When blasting caps are transported on the same vehicle as explosives, the blasting caps shall be contained in a cap magazine designed for that purpose as defined in 49 C.F.R. § 177.835(g).
- No spark-producing materials will be transported in the truck bed with explosives.

- Vehicles used to transport explosives shall be inspected prior to each use. A record of inspections will be kept with the vehicle.
- Explosives vehicles shall be operated in a safe and prudent manner.
- No person shall smoke within 50 feet of explosives.
- All vehicles transporting explosives shall have two ABC fire extinguishers of 10 pound size located in the cab of the vehicle.

Storage of explosive materials shall be conducted in accordance with the following standards and protocols:

- Magazines shall comply with Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) regulations and placed no closer than 100 feet of each other.
- The area around each magazine shall be kept free of combustible materials for a distance of 25 feet.

#### Petroleum Based Fuels and Lubricants

During construction, fuel (diesel and unleaded gasoline) and hydraulic and lubricating oils will be used in the operation of vehicles and construction equipment. Small quantities of such materials may be kept in vehicles for use in refueling and maintenance of construction equipment. All refueling activities will be located at least 100 feet from wetlands, waterbodies, and streams.

It is unlikely that fuel will be stored onsite in the Town of Bowdoinham. However, if temporary fuel storage is necessary, all fuel will be located at least 100 feet from wetlands, waterbodies, and streams, and at least 200 feet from a private water supply. Furthermore, as specified in the “Environmental Control Requirements For Contractors and Subcontractors of Central Maine Power Company – Oil and Hazardous Material” (see Exhibit 5) all gasoline and fuel storage tanks will have secondary containment constructed of impervious material that will be capable of holding 110% of the storage tank capacity. Petroleum based products will be stored in Department of Transportation approved containers. The contractor will also utilize a Spill Contingency Plan during construction.

## **24. Air Quality**

The MPRP will not generate air emissions, and therefore will not result in undue air pollution. During construction, dust will be controlled as needed. The MDEP has issued a Site Location of Development Law Permit for the MPRP, which requires compliance with Site Location of Development Law air quality standards.

## **25. Water Quality**

- a.) The MPRP will not contaminate or pollute surface or groundwater. Please refer to the discussion under performance standard “23. Hazardous, Special & Radioactive Materials” for additional information.

- b.) During construction of the MPRP, potentially flammable, hazardous, or explosive materials that may be used within CMP's transmission corridor include blasting materials and petroleum based fuels and lubricants. As discussed in more detail under performance standard "23. Hazardous, Special & Radioactive Materials", these materials will be stored and handled in accordance with all applicable state and federal regulations.
- c.) The MDEP has reviewed stormwater impacts related to the MPRP, and the proposed best management practices to be implemented during construction to minimize erosion and sedimentation (see Exhibit 3). With regard to stormwater, the MDEP has determined that post-construction stormwater plans are not necessary for transmission line components of the MPRP. The MDEP has also determined that erosion, sedimentation, and water quality concerns related to the MPRP have been sufficiently addressed, and issued Natural Resources Protection Act and Site Location of Development Law permits.

## 26. Stormwater

With the exception of small concrete foundation pads at the base of certain transmission line structures, there will be no increase in concrete or paved impervious surface area associated with the MPRP in the Town of Bowdoinham. These pads will be small – ranging from approximately 40 to 120 square feet for the monopoles and H-frames, and up to 1,000 square feet for the three new lattice towers. Subsequent to construction, the expanded transmission corridor will remain vegetated in the same shrub-meadow cover type as the existing transmission corridor. Accordingly, the MPRP will not significantly increase stormwater runoff, and will not adversely impact abutting or downstream properties. As discussed in the preceding paragraph addressing 25(c), the MDEP has determined that post-construction stormwater plans are not necessary for transmission line components of the MPRP.

## 27. Sedimentation & Erosion Control

- a.) Ground disturbance associated with the MPRP will be limited to the immediate vicinity of the transmission line structure placements and the impacts associated with temporary access ways and work areas. The footprint of each of the transmission line structures will be small, ranging from approximately 40 to 1000 square feet, and will not require major or significant changes to existing site topography and contours.

The temporary access ways, which do not add any impervious surface area, will be established within the MPRP corridor for use during the construction phase. Temporary access ways are equipment paths approximately 20 feet wide suitable for the passage of equipment such as excavators, cranes, and other equipment to the transmission line structure locations. The proposed temporary access ways have been located with consideration of existing topography and natural resources, and will be created by trimming back tall shrubs and saplings to ground level. Roots will be left in place, unless existing large stumps that would pose a travel hazard for equipment are present. In most cases, herbaceous growth and low-compact shrubs will not be trimmed. Grading along

the access ways will be limited to areas where minor grading is needed to facilitate safe equipment access.

Establishment of temporary access ways is a construction necessity that will be an ongoing process as access to areas undergoing immediate construction becomes necessary. All access paths will be temporary and will be removed once construction is complete. Subsequent to construction, areas where soils have been disturbed will be seeded (depending on location and construction timing) and mulched with straw or hay. Vegetation will be allowed to re-establish itself once the temporary access ways have been removed. Subsequent to construction there will be no new permanent roads or driveways associated with the project, other than CMP-maintained access points and ways suitable for routine and urgent maintenance by its own vehicles. The proposed temporary access ways will provide safe access to and from the construction area.

- b.) CMP will require contractors to utilize its “Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects” (2010) during construction (see Exhibit 3). This manual contains erosion and sedimentation control requirements, standards, and methods that will be used to protect soil and water resources during construction of the various MPRP components. The Environmental Guidelines were developed in consultation with the MDEP and are largely based on the DEP’s *Maine Erosion and Sediment Control BMPs*, dated March 2003, and DEP’s Chapter 500 Stormwater Management Rules, and contains specific Best Management Practices appropriate for electric transmission line construction. These guidelines will be followed during the construction of transmission line. Adherence to these guidelines and state and federal environmental permit conditions will be monitored by a CMP environmental representative during project construction.

## 28. Noise

- a.) Machinery and equipment will generate noise during construction. Should construction occur between the hours of 9 p.m. and 6 a.m., which is not anticipated or planned, noise will be minimized to the extent practicable. Construction will typically occur during the daytime.

Subsequent to construction, transmission line conductors (wires) have the capacity to generate “audible noise” (AN). For electric transmission lines, AN is relative to conductor size. Audible noise from transmission lines is typically a foul-weather/wet conductor phenomenon. CMP has selected conductor sizes that under ideal, dry conditions are designed to be noise free; under adverse weather conditions (e.g., very high humidity and storm conditions) these same conductors will emit only a slight crackling sound. Audible noise levels at the edges of the corridor for the MPRP conductors were modeled based upon conservative assumptions for conditions relating to the operation of existing 12.5 kV, 34.5 kV, 115 kV, and 345 kV transmission lines, and to the operation of a new 345 kV and 115 kV transmission line and re-rated/upgraded existing lines proposed for the MPRP. Dr. William Bailey of ExPonent conducted AN modeling at numerous points along the proposed MPRP corridor. The modeling results

show only a slight increase in AN under the proposed conditions. These results meet the MDEP noise standard of 50 dBA in typical areas or 45 dBA in quiet areas.

Based on the modeling of AN Dr. Bailey it determined that: “The transmission line conductors can give rise to AN, and the levels at the edges of ROWs in fair weather are calculated to be below the noise standard of the MDEP (50 dBA or 45 dBA in quiet areas). Higher levels of AN would occur during foul weather but would be masked by the background noise of rain and wind”, but in each case will remain below the levels allowed by the MDEP. Given that the MPRP will meet the applicable state noise standards, and that the number and voltage of transmission conductors will not change in the Town of Bowdoinham, the proposed transmission line upgrades in the Town of Bowdoinham are not anticipated to cause excessive noise at unreasonable hours.

b.) By necessity, transmission lines operate continuously for 24 hours a day.

## **E. Use-Specific Performance Standards**

### **17. Non-Roadside or Cross-Country Distribution Lines (greater than 34.5 kV)**

The MPRP is a comprehensive upgrade to CMP’s bulk power transmission system that has been proposed to improve the present and future reliability of Maine’s bulk power system, maintain compliance with recently changed and mandatory federal reliability standards, and prepare Maine’s bulk power transmission system for a sustainable and renewable energy future. As such, evaluation of the need for the MPRP, and the technical and economic merits of the proposed project design and potential alternatives rests with the Maine Public Utilities Commission (PUC), which is responsible for ensuring that improvements to the bulk power system are completed in a technically sound and cost effective manner that is in the best interest of Maine’s ratepayers.

The PUC recently completed a two year review of the MPRP and possible project alternatives. Transmission system alternatives and non-transmission alternatives (including addition of targeted and strategically located power generation facilities and conservation/energy demand management) were evaluated. The comprehensive PUC review and evaluation of the MPRP considered economics, present and future demand on the bulk power system, technical needs and constraints, social impacts, environmental impacts, project costs, and abutter impacts. This public process drew many comments from the public, and numerous interveners participated in the review process. As a result of this process, the PUC issued a Certificate of Public Convenience and Necessity (CPCN) for the MPRP on June 10, 2010. The MPRP design approved by the PUC has incorporated a number of project design updates and adjustments that are the result of the comprehensive analysis of project alternatives and input from the public and project interveners.

The issuance of a CPCN confirms the need for the MPRP, and that the proposed design is technically sound and cost effective for Maine ratepayers. An alternatives analysis addressing the entire MPRP has previously been submitted to the Town of Bowdoinham when the Town was provided with a copy of the MPRP Natural Resources Protection Act Application.

However, for completeness purposes regarding this application for Site Plan Review approval, an analysis of alternatives for the components of the MPRP located in Bowdoinham (Segment 16) is provided below.

**a.) (i.) Proposed Cost and Benefits of the Proposed Project**

Preliminary estimates of the cost to construct the MPRP in the Town of Bowdoinham have been calculated at approximately \$3,150,000.

With regard to the benefits of the proposed construction, the proposed upgrades will enhance the reliability of Maine's 345 kV transmission system, and maintain compliance with federal transmission reliability standards. The 345 kV transmission system is the backbone of the bulk power transmission system in Maine. In the Town of Bowdoinham, two existing 345 kV lines are supported by a single set of "double circuit towers" as they cross the Abagadasset and Kennebec Rivers. These double circuit towers provide Maine's only existing 345 kV connection between points west of the Kennebec River and points east of the Kennebec River. It is therefore a critical point in Maine's bulk power system that maintains a 345 kV connection between an extensive area of Maine and New Brunswick and the rest of the eastern bulk power transmission system. Constructing each 345 kV line on a separate set of transmission line structures will remove the existing reliability risk.

The proposed construction will also enable CMP to maintain compliance with federal transmission system reliability standards that had previously been voluntary, but that are now mandatory and enforceable, and subject to significant financial penalties. The Energy Policy Act of 2005 (EPAct), which was enacted by Congress in response to the August 2003 blackout throughout much of the Northeast, mandates adherence to the North American Electric Reliability Council and the Northeast Power Coordinating Council reliability standards for the bulk power system. The proposed MPRP construction in the Town of Bowdoinham will allow CMP to remain in compliance with the reliability standards mandated by the EPAct and avoid financial penalty for non-compliance.

**a.) (ii.)/(iii.) Potential Impacts on Abutters, the Environment, and Wildlife Habitat, and How These Will Be Minimized**

Abutters

In the Town of Bowdoinham, potential impacts to abutting property owners will be minimized by co-locating the proposed MPRP construction with an existing transmission corridor that CMP has maintained for decades for the specific purpose of power transmission. Visual impacts related to the proposed construction have been minimized by locating the proposed transmission line structures within the existing transmission corridor alongside the existing lattice towers, which are of comparable height. Through its review of the MPRP Site Location of Development Law application, the DEP has determined that the proposed MPRP construction in Bowdoinham "will not unreasonably interfere with existing scenic and aesthetic uses of scenic resources within its viewshed and should not have an unreasonable adverse effect on the scenic character of the surrounding area."

However, the new set of proposed transmission line structures will be visible from nearby roads, property, and waterbodies, so as required by the MPRP Site Location of Development Act permit issued by the DEP, CMP will establish vegetative visual buffers of the transmission corridor at selected locations along Center's Point Road and Brown's Point Road, where these roads intersect with the transmission corridor. These visual buffers will be comprised of plantings of shrubs and other vegetation that is less than approximately 10 feet tall at maturity.

As part of the PUC and DEP review of the MPRP, abutters have been notified and afforded the opportunity to explain any concerns they may have regarding the MPRP during multiple public meetings, through written correspondence, and through direct discussion with CMP and MPRP representatives. Abutter comments have been considered as part of the PUC and DEP review of the project, and where justifiable and practicable the project has been modified accordingly.

Within the Town of Bowdoinham, abutter comments received to date have principally been through the vegetable farming cooperative that is located within and adjacent to the transmission corridor. The farming cooperative has been active as an intervener during the PUC proceedings. CMP has also had numerous conversations with the farming cooperative through the MPRP community relations team to identify the farming cooperative's concerns, and where possible address them through the project design and construction scheduling. To the extent practicable CMP has sited the proposed transmission line structures and temporary access ways to avoid impacting agricultural land, while also avoiding protected natural resources and meeting the necessary design standards.

The timing of the proposed construction has been identified as an issue of concern by the farming cooperative. Through consultations with the farmers CMP has identified the time of year that the proposed construction will be least impacting on the agricultural operations. Based on these discussions, CMP has modified the MPRP construction schedule so that construction will occur during the fall, winter, and spring in order to minimize impacts to farming operations.

Access to crops and farmland during construction operations, and minimizing the number of temporary access ways crossing agricultural fields have also been raised by the farming cooperative as issues that are important to them. The proposed temporary access way locations have been modified so that farm access will be maintained during construction, and such that construction access way crossings of agricultural fields will be minimized by establishing access from Brown's Point Road to the proposed construction areas where practicable.

The farming cooperative has also requested at least one year prior notification of the proposed construction start date, so that farmers may plan the location of multi-year crops. CMP has agreed to provide at least one year prior notification of construction to the farming cooperative so that crop locations may be planned accordingly.

Increases in the existing electromagnetic fields (EMF) under and near the transmission lines have also been stated as a concern of the farming cooperative and other abutters. To address this concern, CMP used computer models to estimate EMF under typical system loads with the existing and proposed transmission line configuration. This modeling indicated that the proposed transmission line upgrades will actually lower the maximum level of EMF produced by the transmission lines within the corridor, and that at the corridor edge EMF levels will be similar to (and at some locations, even slightly less than) existing conditions. CMP has also designed the transmission conductor phase arrangement to minimize EMF near the transmission lines using a design technique known as “phase optimization”. CMP has incorporated phase optimization into the MPRP design in accordance with the recommendations of the World Health Organization’s extensive review of scientific evidence and research on EMF and human health. The World Health Organization has concluded that the scientific evidence does not demonstrate that EMF is a cause of disease or illness, but recommends that, as a precautionary measure, design measures to reduce EMF such as phase optimization should be implemented where it does not add significantly to project cost, or yields other benefits.

During the construction phase of the MPRP, the farming cooperative, other abutters, and residents of the Town of Bowdoinham will continue to have the opportunity to communicate any concerns regarding construction of the MPRP with a community relations liaison. As a part of the PUC CPCN order for the MPRP, the position of the Ombudsman has been created to assist as a neutral, third-party mediator for addressing concerns between landowners and CMP which may arise during the construction process. The Ombudsman is under the auspices of the PUC and will coordinate with the Office of the Public Advocate (OPA) to insure that landowner concerns are being met in a timely fashion. The Ombudsman will serve as a mediator between CMP and landowners to aid in resolving disputes. If a dispute cannot be finalized with the assistance of the Ombudsman, a ‘Landowner Dispute Resolution Process’ is being finalized with CMP, the PUC and the OPA which will allow landowners to seek assistance from the PUC directly. Failure to reach agreement with that process will result in direct PUC jurisdiction over the dispute. Landowners are encouraged to seek out the MPRP community relations team by calling 1-866-914-1944 to have questions answered and resolve any construction issues. If a resolution cannot be reached, the abutter will be encouraged to seek assistance from the Ombudsman.

A pre-construction briefing will also be provided to the Town of Bowdoinham as the start of construction approaches, and landowner outreach will be initiated prior to the start of construction.

### *The Environment and Wildlife Habitat*

#### *“Least Impacting” Transmission Corridor Design Principles and Process*

During the analysis of potential route alternatives, a principal consideration in identifying the least environmentally damaging practicable alternative was to utilize land located within, or directly adjacent and parallel to, existing transmission line corridors to the maximum extent possible. Co-locating within existing transmission line corridors avoids the creation of new

“greenfield” transmission corridor routes. Co-locating MPRP transmission lines within existing transmission line corridor minimizes new potential impacts to vegetation, wildlife habitat, streams, wetlands, vernal pools, and other natural resources; limits landscape disturbances; and minimizes changes to existing land use patterns.

In contrast, new greenfield transmission corridors impact land that is presently undeveloped or utilized for other purposes. When new greenfield routes are constructed, new areas of environmental impact often result from the new corridor development. Greenfield transmission corridors are likely to encounter protected natural resources with a frequency similar to that found in existing corridors. However, landscape impacts may be higher in greenfield routes across undeveloped land because new corridor is being created, rather than existing or expanded corridor along previously developed routes as is the case with co-located transmission lines. In the Town of Bowdoinham, CMP was able to co-locate the proposed improvements within existing CMP service corridor property.

The MPRP design process commenced with mapping protected and sensitive natural resources within the project area using published Geographical Information System (GIS) databases, and data from on the ground field surveys. The entire MPRP project area was surveyed for streams, wetlands, waterbodies, vernal pools, significant wildlife habitat, rare species, and unusual natural communities.

To determine transmission line structure locations, CMP used a computer model able to recognize the location protected natural resources that had been mapped within the project area. The computer model also allowed assignment of higher values to some protected natural resources than others. Certain natural resources were assigned the highest priority for avoidance for two reasons. First, constructing a utility structure in these natural resources could have a significant effect on, or altogether compromise, the resources’ ecological functions. Secondly, these resources comprise discrete features on the landscape that can generally be avoided with prudent design planning.

In contrast, addition of utility structures within natural resources in the “Avoided Where Practicable” category will generally not significantly impact their ecological function, or the resources may be spatially expansive (such as large wetlands), and cannot be entirely avoided. For example, based on the assumptions entered, the model was able to recognize significant vernal pools as being more important to avoid than wetlands or deer wintering areas. The model generated a design that, to the maximum extent practicable, avoided placement of utility structures in protected natural resources. This initial transmission segment design comprised the “30 percent design.”

CMP’s environmental team reviewed the 30 percent design and recommended changes to further avoid or minimize natural resource impacts. In the Town of Bowdoinham, recommended changes to the 30 percent design included relocating ten transmission line structures out of wetlands into uplands, or further away from wetlands or vernal pools. The MPRP engineers reviewed these recommendations and incorporated them to the maximum extent practicable, based on engineering feasibility, cost constraints, and other considerations, such as neighborhood impacts. Altogether, the proposed location of five

utility line structures was able to be adjusted to further reduce impacts to protected natural resources (see Table 1 below). This analysis and the corresponding design adjustments resulted in the “60 percent design.”

| <b>Table 1: Segment 16 Environmental Review Summary</b> |  |  |
|---|--|--|
| <b>Transmission Line Structure Identification</b>       | <b>MPRP 30% Design Environmental Review Comment</b>  | <b>Resultant Action Incorporated Into MPRP 60% Design</b>  |
| <b>Section 81/377</b>                                   |  |  |
| 81/377-155  | Move further to the southwest away from the wetland. | Could not be moved; transmission line structure is located at a point of intersection.   |
| 81/377-155A   | Move to the east out of the wetland.                 | As proposed under 30% design, the transmission line structure was close to the wetland, but not in it. However, the transmission line structure was relocated 25 feet further from the wetland, to the northeast.  |
| 81/377-156  | Move to the west out of the wetland.                 | Transmission line structure could not be moved; it is located at a point of intersection. A subsequent Segment 16 design update moved the point of intersection to the east side of Center’s Point Road, which avoids wetland impacts at this location. However, this design update also required a shift in the point of intersection on the east side of the Abagadasset River, which required that one transmission line structure be located in a wetland. Therefore, the net wetland impact was unable to be further reduced. |
| 81/377-159  | Move to the east further from the wetland.           | Transmission line structure could not be moved; it is a point of intersection.   |
| 81/377-159A   | Move to the east out of the wetland.                 | Transmission line structure was relocated 65 feet to the east out of the wetland.  |
| 81/377-160  | Move to the east out of the wetland.                 | Transmission line structure was relocated 65 feet to the east out of the wetland.  |
| 81/377-161  | Move to the west out of the wetland.                 | Transmission line structure could not be moved; it is located at a point of intersection.  |
| 81/377-161A   | Move to the west out of the wetland.                 | Transmission line structure was relocated 60 feet to the west out of the wetland.  |
| <b>Section 375</b>                                      |  |  |

| <b>Table 1: Segment 16 Environmental Review Summary</b> |  |  |
|---|--|--|
| <b>Transmission Line Structure Identification</b>       | <b>MPRP 30% Design Environmental Review Comment</b>                      | <b>Resultant Action Incorporated Into MPRP 60% Design</b>  |
| 375-413A  | Move to the southwest away from the wetland and significant vernal pool. | Transmission line structure was moved 55 feet to the west, further away from the wetland and vernal pool.  |
| 375-416   | Move out of the wetland, if possible.                                    | This is a river crossing structure, and MPRP engineers recommended that it not be moved. To move the structure to the west it would need to move 65 feet, which would place it in the roadway. To move the structure to the east it would need to move 140 feet, which would require tower heights on both sides of the river to increase by 15 feet, and the river crossing span to increase from 1,309 feet to 1,449 feet. |

The 60 percent design for which CMP now seeks authorization to construct includes the proposed pole locations and transmission line layout. Remaining design additions that will occur to reach the final design are limited to structure details such as hardware specifications for individual poles.

#### *Environmental Impacts and Minimization*

Although environmental impacts were minimized through the design process not all impacts to protected natural resources could be avoided. Avoiding placement of utility structures within the protected resource is sometimes not feasible. Span distances between utility structures are limited by engineering considerations, and adjusting the location of one utility structure to avoid a protected resource can necessitate relocation of numerous other utility structures along the transmission line into other protected resources, resulting in greater environmental impacts. In the Town of Bowdoinham, three new transmission line structures will be located within wetlands.

In order to minimize environmental impacts throughout construction, CMP will require contractors to utilize its “Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects” (2010) during construction (see Exhibit 3). This manual contains erosion and sedimentation control requirements, standards, and methods that will be used to protect soil, water, plant, and wildlife resources during construction of the various MPRP components. The Environmental Guidelines were developed in consultation with the MDEP and are largely based on the DEP’s *Maine Erosion and Sediment Control BMPs*, dated March 2003, and DEP’s Chapter 500 Stormwater Management Rules, and contains specific Best Management Practices appropriate for electric

transmission line construction. These guidelines will be followed during the construction of transmission line. Adherence to these guidelines and state and federal environmental permit conditions will be monitored by a CMP environmental representative during project construction.

Temporary access ways, which do not add any impervious surface area, will be established within the MPRP corridor for use during the construction phase. Temporary access ways are equipment paths approximately 20 feet wide suitable for the passage of equipment such as excavators, cranes, and other equipment. The temporary access ways will be created by trimming back tall shrubs and saplings to ground level. Roots will be left in place, unless existing large stumps that would pose a travel hazard for equipment are present. In most cases, herbaceous growth and low-compact shrubs will not be trimmed. Grading along the access ways will be limited to areas where minor grading is needed to facilitate safe equipment access.

Establishment of temporary access ways is a construction necessity that will be an ongoing process as access to areas undergoing immediate construction becomes necessary. All access paths will be temporary and will be removed once construction is complete. Subsequent to construction, areas where soils have been disturbed will be seeded (depending on location and construction timing) and mulched with straw or hay. Vegetation will be allowed to re-establish itself once the temporary access ways have been removed. Subsequent to construction there will be no new permanent roads or driveways associated with the project, other than CMP-maintained access points and ways suitable for routine and urgent maintenance by its own vehicles. The proposed temporary construction access ways will not have an unreasonable negative impact on the town road system. The proposed temporary access ways will provide safe access to and from the construction area.

With the use of best management practices for transmission line construction, potential impacts to the environment will be temporary and limited to the construction phase, and in the few locations where transmission line structures cannot be located outside of protected natural resources. The three new transmission line structures that will need to be located within wetlands to accommodate design requirements will not have a significant effect on wetland functions and values due to the small footprint that they occupy.

#### *Wildlife Habitat Impacts and Minimization*

As with environmental impacts, wildlife impacts will be temporary and limited to the construction phase. Protected wildlife habitats within the construction area include an active bald eagle nest, two vernal pools, and one inland waterfowl and wading bird habitat. Aquatic habitats of the Abagadasset River and the Kennebec River will also be spanned by the transmission lines.

An active bald eagle nest exists near the end of Brown's Point Road and the transmission corridor. Proposed construction activities within ¼ mile of the eagle's nest include removal and reconstruction of one lattice tower, and restringing transmission line conductors. The bald eagle nest will not be physically disturbed by the proposed construction activities.

Through consultations with the IF&W and the U.S. Fish and Wildlife Service, and also as required by CMP's Site Location of Development Law and Natural Resources Protection Act permits, CMP has also agreed to take additional steps to avoid disturbing bald eagles during construction. These additional steps include: pre-construction aerial surveys to identify the location of active bald eagle nests within ¼ mile of the MPRP construction area, and scheduling construction so that construction does not occur within ¼ mile of an active bald eagle nest during the breeding and nesting season (February 1<sup>st</sup> to August 31<sup>st</sup>).

Two vernal pools are located within the existing transmission corridor. Construction activities are not proposed within the vernal pool depressions. Soil disturbance in the surrounding terrestrial habitat of the vernal pools will be limited and short-term. During construction, soils will be stabilized using construction best management practices. Subsequent to construction soils will be allowed to naturally revegetate to a shrub-meadow cover type. Therefore no impacts to the vernal pools or their habitat functions are anticipated, because there will be no change to the habitat characteristics of the vernal pools, and changes to the surrounding terrestrial habitat will be limited to the direct footprint of the transmission line structures, which are small.

One inland waterfowl and wading bird habitat (WWBH) will be crossed by the project. One new transmission line structure will be constructed and one existing structure will be removed from within the WWBH buffer, although no structures will be erected or removed from within the wetland habitat itself. Thus there will be no significant impact to the WWBH.

The Kennebec and Abagadasset Rivers will be spanned by the proposed transmission line improvements, although no work is proposed within these watercourses. These rivers provide fish habitat, including habitat for anadromous species. During construction, erosion and sedimentation into these watercourses or their tributaries and wetlands will be prevented through the use of construction best management practices, in accordance with CMP's Environmental Guidelines (see Exhibit 3). With the implementation of these measures, fish habitat will not be compromised or affected by construction of the MPRP.

**b.) The proposed poles/towers shall be located so that they will have the least effect on abutters, the environment, and wildlife habitat.**

Please refer to the immediately preceding discussion of the procedures used to design the MPRP with the least amount of impact to abutters, the environment, and wildlife habitat.

**c.) The construction of non-roadside or cross-country distribution lines or gas pipelines must be scheduled so that the construction will have the least impact on abutting property owners, other persons that may be directly affected by the construction, the environment, and wildlife habitat.**

As addressed in the discussion of impacts to abutters, CMP has modified its construction schedule to minimize impacts to agricultural operations located within CMP's transmission corridor. Construction is scheduled to occur during the fall, winter, and spring to minimize

potential impacts to crops and agricultural operations. The proposed construction schedule also has the benefit of completing part of the work in the winter when the upper part of the soil is most likely to be frozen. Frozen ground provides a better construction surface. CMP will continue to communicate with farmers in the project area, in order to fine tune the construction schedule to avoid conflicts with agricultural land uses.

CMP has also modified the construction schedule to avoid disturbance to the active bald eagle nest near the east end of Brown's Point Road, in accordance with state and federal permit requirements. Construction will not occur within ¼ mile of an active bald eagle's nest during the nesting season, which runs from February 1<sup>st</sup> to August 31<sup>st</sup>. The proposed construction schedule also has the added benefits of avoiding construction during the summer months when many species of wildlife are more active.

Winter construction will require coordination with the Town of Bowdoinham Public Works Department. A MPRP construction liaison will coordinate directly with the Public Works Department to minimize heavy construction vehicle traffic on roads that are subject to frost damage, weight limit restrictions, or that are not preferred routes of travel for heavy construction vehicles for other reasons such as recent investments in road improvements. The MPRP construction liaison will also coordinate with the Public Works Department to ensure that snow removal from town roads is not encumbered by construction activities. Construction vehicles and equipment will not be parked or stored on public roads and or as to prevent emergency vehicle or snowplow access along town roads.

## Article 7. Shoreland Zoning

The following describes the MPRP's compliance with the provisions and standards of Article 7 (Shoreland Zoning) of the Town of Bowdoinham Land Use Ordinance, to ensure that there will be no unreasonable adverse impact on the water quality or shoreline of any adjacent water body. The shoreland zoning districts affected by the MPRP are identified, impacts are evaluated, and the shoreland zone land use standards are discussed relative to the MPRP.

### *Affected Shoreland Zoning Districts*

The MPRP will traverse the Limited Residential District and the Resource Protection District in the Town of Bowdoinham. The individual zoning districts and their locations are identified and described as follows:

1. *Limited Residential District associated with the Abagadasset River*

MPRP construction will occur within the existing transmission corridor in a Limited Residential District located along both banks of the Abagadasset River (see Project Scope and Shoreland Zoning Maps in Exhibit 1). These Limited Residential Districts extend 250 feet horizontally from the river's spring high tide elevation, and from the upland edge of non-forested riparian wetlands along the Abagadasset River.

One new lattice tower transmission line structure will be installed on the west side of Abagadasset River in the Limited Residential District. One existing Section 81 wooden H-frame structure will also be removed from the corridor in the Limited Residential District on the east side of the Abagadasset River. The Section 377 conductors will be removed from the existing Section 375/377 double circuit towers. Temporary access ways will be used within the Limited Residential District during the construction phase, and will then be removed and the site restored when construction is completed. Trees, saplings, and capable species will be removed and maintained in accordance with the existing corridor maintenance procedures to maintain a shrub-meadow cover type.

2. *A Resource Protection District associated with the 100 year floodplain of the Abagadasset River*

MPRP construction will occur within the existing transmission corridor in a Resource Protection District associated with the FEMA designated 100 year floodplain at the mouth of the Abagadasset River (see Project Scope and Shoreland Zoning Maps in Exhibit 1).

One new lattice tower transmission line structure will be installed within the Resource Protection District. The Section 377 conductors will be removed from the existing Section 375/377 double circuit towers. Two existing wooden H-frame structures will also be removed from the corridor in the Resource Protection District. Temporary access ways will be used during the construction phase, and will then be removed and the site restored when construction is complete. Trees, saplings, and capable species will be removed and

maintained in accordance with the existing corridor maintenance procedures to maintain a shrub-meadow cover type.

3. *A Resource Protection District associated with a wetland mapped as moderate value inland waterfowl and wading bird habitat*

MPRP construction will occur within the existing CMP corridor in a Resource Protection District associated with a wetland mapped as moderate value inland waterfowl and wading bird habitat. This Resource Protection District is located between the proposed transmission line structures labeled as 81/377-161 and 81/377-161B on the Shoreland Zone Mapping in Exhibit 1.

One new steel monopole structure will be installed, and two existing Section 81 wooden H-frame structures will be removed in this Resource Protection District. The Section 377 conductors will be removed from an existing Section 375/377 double circuit tower. Temporary access ways will be used within this Resource Protection District during the construction phase, and will then be removed and the site restored when construction is complete. Except in land that is actively cultivated, trees, saplings, and capable species will be removed and maintained in accordance with the existing corridor maintenance procedures to maintain a shrub-meadow cover type. No wetland disturbance will occur within this Resource Protection District, other than vegetation management activities which have been conducted routinely since the corridor was originally established.

4. *A Limited Residential District associated with a palustrine wetland*

MPRP construction will occur within the existing transmission corridor in a Limited Residential District within 250 feet of a palustrine wetland mapped by the National Wetlands Inventory. This Limited Residential District is located between the proposed transmission line structures labeled as 81/377-161B and 81/377-162 on the Shoreland Zone Mapping in Exhibit 1.

One new steel monopole structure will be installed, and two existing Section 81 wooden H-frame structures will be removed from this Resource Protection District. Temporary access ways will be used within this Limited Residential District during the construction phase, and will then be removed and the site restored when construction is complete. Except in land that is actively cultivated, trees, saplings, and capable species will be removed and maintained in accordance with existing corridor maintenance procedures to maintain a shrub-meadow cover type. No work will occur within wetlands, other than vegetation management activities, which have been conducted routinely since the corridor was originally established.

5. *A Resource Protection District associated with a FEMA-mapped floodplain within the Limited Residential District of a palustrine emergent wetland*

The MPRP will traverse a Resource Protection District defined by the limits of a FEMA-mapped floodplain construction within the existing transmission corridor. This Resource

Protection District is located between the proposed transmission line structures labeled as 81/377-161B and 81/377-162 on the Shoreland Zone Mapping in Exhibit 1.

No transmission line structures will be added to or removed from this Resource Protection District, and no temporary access ways will be used within the district boundary. Except in land that is actively cultivated, trees, saplings, and capable species will continue to be removed to maintain a shrub-meadow cover type, as has been routinely conducted since the corridor was originally established.

6. *A Limited Residential District along the banks of the Kennebec River*

MPRP construction will occur within the existing transmission corridor in a Limited Residential District associated with western bank of the Kennebec River. This Limited Residential District is shown on the Shoreland Zone Mapping in Exhibit 1.

One new steel monopole structure will be installed, one existing steel lattice tower will be removed and rebuilt, and two existing Section 81 wooden H-frame structures will be removed from this Limited Residential District. The Section 377 conductors will be removed from the existing Section 375/377 double circuit tower. Temporary access ways will be used within this Limited Residential District during the construction phase, and will then be removed and the site restored when construction is complete. Except in land that is actively cultivated, trees, saplings, and capable species will be removed and maintained in accordance with existing corridor maintenance procedures to maintain a shrub-meadow cover type. No work will occur within wetlands in this Limited Residential District, other than vegetation maintenance, which has been routinely conducted since the corridor was originally established.

7. *Resource Protection District along the banks of the Kennebec River*

The MPRP will traverse a Resource Protection District defined by the FEMA-mapped floodplain along the western bank of the Kennebec River. This Resource Protection District is shown on the Shoreland Zone Mapping in Exhibit 1. Although the transmission towers at the crossing of the Kennebec River are partially located within the FEMA-mapped boundary, the height of the Kennebec River embankment at this location suggests that the transmission towers may be located well above the 100 year flood elevation of approximately 10 feet. Other work within this Resource Protection District includes the removal of a row of planted pine trees and other vegetation maintenance like that which has been routinely conducted since the corridor was originally established.

***Project Impacts in the Shoreland Zone Districts of Bowdoinham***

In each of the affected shoreland zones, project impacts will be minimal. Prior to construction, capable species will be removed from the transmission corridor, which will continue to be managed in a vegetated shrub-meadow cover type as is presently done.

Where necessary for MPRP construction, additional temporary vegetation trimming may also occur within an approximately 75-foot radius construction area surrounding each of the proposed steel monopoles in the shoreland zone, and within an approximately 100-foot radius construction area surrounding each of the lattice towers. In accordance with MDEP and U.S. Army Corps of Engineers permits, the configuration and extent of workspace around each transmission line structure will be modified to avoid protected natural resources such as wetlands and vernal pools. Within the construction area saplings and tall shrubs will be trimmed and mulched to existing grade to facilitate equipment operation during pole installation. Roots will be left in-place. Low-compact shrubs and herbaceous growth that will not affect equipment operation will not be trimmed. Subsequent to construction, the area of temporary vegetation trimming around the transmission line structures will be stabilized and allowed to naturally re-vegetate with non-capable species. The area will be maintained in the shrub-meadow cover type as is presently done with the existing corridor.

With regard to permanent impacts, installation of each of the three new steel monopoles located in the shoreland zone will require a concrete foundation that will permanently impact approximately 40 to 120 square feet of ground. The two new lattice towers and one replacement lattice tower in the shoreland zone will each have a concrete foundation that could be up to 1,000 square feet in size. However, it is more likely that each lattice tower will require only smaller foundations around each foot of the tower that will measure approximately 10 feet by 10 feet.

The removal of nine existing Section 81 H-frame structures in the shoreland zone will result in no permanent impacts. Once the H-frames are removed, the disturbed ground around the poles will be stabilized with hay or straw mulch and allowed to revegetate. The restored area around the H-frames will also match the surrounding grade as nearly as possible.

Although no new permanent roads or access ways will be constructed, temporary access ways will be utilized by construction equipment to reach the transmission line structure locations. Temporary access ways will have no long-term or significant environmental impacts and are addressed in more detail under the preceding discussion of construction access under the “Description of the MPRP in Bowdoinham” near the beginning of this application, and within the discussion of “Access Management” and “Sedimentation and Erosion Control” criteria of Article 6.

Once the Section 81 transmission line structures are removed and the new transmission line structures are installed, the remaining construction activities in the shoreland zone will be limited to hardware installation on the transmission line structures and stringing the conductors.

## **A. Shoreland Zone Application & Review Procedures**

### **4. Submission Requirements**

- a) The applicant shall submit the following number of copies:
  - (i) For Code Enforcement Officer Review– Two (2) copies

Not applicable.

(ii) For Planning Board Review – Nine (9) copies

Eleven copies have been provided, per Site Plan Review requirements.

b) The application shall submit the following information:

(i) Completed application form.

A completed Planning Board Application Form is provided at the front of this application

(ii) Evidence of right, title or interest in the property.

A tabular summary of CMP’s right, title, or interest in the property is provided in Exhibit 7. One copy of a binder of deeds and easements for the project area has been submitted to the Planning Board with this application.

(iii) Copy of the Town’s Assessors Property Map

Tax map parcel boundaries are shown on the Project Scope and Natural Resources Maps and the Project Scope and Shoreland Zoning Maps provided in Exhibit 1.

(iv) Evidence of payment of application fee.

CMP’s agent has provided a check to the Town of Bowdoinham to pay the \$50 Shoreland Zoning Application fee.

(v) Site plan of the portion of the parcel with the shoreland zone at a scale of not more than one hundred (100) feet to the inch showing as a minimum:

Project Scope and Natural Resources Maps have been provided at a scale of 1 inch to 100 feet, and Project Scope and Shoreland Zoning Maps have been provided at a scale of 1 inch to 300 feet in Exhibit 1. CMP has found that 300 scale maps facilitate Planning Board review because they provide landscape context given the linear nature of the project. CMP has also provided the 100 scale mapping to satisfy Site Plan and Shoreland Zoning review application requirements.

(A) the boundaries of the parcel

The boundaries of the existing CMP transmission corridor are shown on the Project Scope and Natural Resources Maps and the Project Scope and Shoreland Zoning Maps provided in Exhibit 1.

(B) the Shoreland Zone District boundary(s)

The boundaries of the shoreland zone are shown on the Project Scope and Shoreland Zoning Maps provided in Exhibit 1.

(C) the required shoreland setback

Given the linear nature of the proposed transmission lines, they must cross, rather than be set back from, the various shoreland zone waterbodies and wetlands within the project area. No new buildings are proposed. The boundaries of the various shoreland zone districts are shown on the Project Scope and Shoreland Zoning Maps provided in Exhibit 1.

(D) The major natural features of the property, including wetlands, vernal pools, streams, ponds, floodplains, groundwater aquifers, significant wildlife habitats, scenic views or areas, significant geological features, or other important natural features.

The Project Scope and Natural Resources Maps provided in Exhibit 1 show the protected and important natural resources within in the project area. Please refer to the legend on the mapping to identify the various resources that have been mapped in the project area. Natural resources shown on the Project Scope and Shoreland Zoning Maps in Exhibit 1 include wetlands and waterbodies. The other natural resources within the project area are not shown on these maps because the mapping symbology of the shoreland district coupled with multiple layers of natural resource symbology creates a cluttered map view. The other natural resources located within the shoreland zone can be identified by referring to the project Scope and Natural Resources Maps.

(E) Location and dimensions of existing developed areas (non-vegetated areas), such as buildings, driveways, decks/patios and walkways

These areas are identifiable on the orthophotograph-based mapping provided in Exhibit 1.

(F) location of existing subsurface wastewater disposal system, if applicable

Not applicable.

(G) existing restrictions or easements on the site;

Please refer to the tabular summary of CMP's right, title, or interest in the transmission corridor property provided in Exhibit 7.

(H) the location and size of existing utilities or improvements servicing the site;

Not applicable.

- (I) proposed development including locations of buildings, impervious areas, and non-vegetated areas

These areas are identifiable on the orthophotograph-based mapping provided in Exhibit 1. No new buildings, impervious areas, or non-vegetated areas are proposed, with the exception of small concrete foundations at the base of the transmission structures.

- (vi) a valid plumbing permit or a completed application for a plumbing permit, including the site evaluation approved by the Plumbing Inspector, shall be submitted whenever the nature of the proposed structure or use would require the installation of a subsurface sewage disposal system.

Not applicable.

- (vii) Photographs of the site.

Orthophotograph-based mapping is provided in Exhibit 1.

- (viii) A narrative describing how the proposed project meets the Approval Criteria in Section B below and the Performance Standards in Section D below, along with the necessary supporting evidence.

Narrative description of how the MPRP meets the approval criteria in Section B is provided throughout this application. Specifically, please refer to the description of the MPRP in the Town of Bowdoinham at the front of this application and the discussion of land use standards related to various articles of the Bowdoinham Land Use Ordinance, specifically:

- Article 6 Land Use Standards C, G, J, K, and L;
- Article 8
- Article 10(D) Land Use Standards 5, 9 10, 13, 16, 17, 19, 20, 21 22, 23, 24, 25, 26, 27, and 28;
- Article 10(E) Land Use Standard 17; and
- The following discussion of the Shoreland Zoning Performance Standards.

## **D. Performance Standards**

### **1. Minimum Lot Standards**

Minimum lot standards are not specified for “essential service” land uses such as the MPRP, and are therefore not applicable.

**2. Principal and Accessory Structures**

No new structures with floor area are proposed. Where practicable, all of the proposed transmission line structures have been located at least 100 feet from the normal high-water line of water bodies or the upland edge of wetlands. In some cases however, transmission line structures will be located within the 100-foot setback to accommodate engineering requirements, minimize waterbody span distances (thereby reducing pole heights), and minimize encroachments into agricultural lands. Structures with no floor area, such as the proposed transmission line structures and towers, are exempted from the 35 foot height restriction.

**3. Piers, Docks, Wharves, Bridges and Other Structures and Uses Extending Over or Below the Normal High-Water Line of a Water Body or Within a Wetland**

Piers, docks, wharves, and other similar structures extending over or beyond waterbodies are not part of the MPRP.

**4. Campground**

Not applicable. Campground construction is not part of the MPRP.

**5. Individual Private Campsites**

Not applicable. Individual private campsites are not part of the MPRP.

**6. Commercial and Industrial Uses**

Not applicable. The MPRP is not defined as a commercial or industrial land use.

**7. Parking Areas**

Not applicable. Parking lots or areas are not part of the MPRP.

**8. Roads and Driveways**

Not applicable. Permanent roads and driveways are not part of the MPRP.

**9. Stream Crossings**

The entire construction area was surveyed for wetlands and streams, and other than the Abagadasset and Kennebec Rivers, no watercourses or streams were identified within the project area in the Town of Bowdoinham. U.S. Geological Survey mapping does show one intermittent stream within the Resource Protection District associated with a wetland located between proposed transmission line structures 81/377-161A and 81/377-161B. Field surveys demonstrated that this wetland is an abandoned beaver flowage that is frequently or permanently flooded by standing water. A stream channel likely existed within this wetland before it was flooded by the beaver impoundment, but no functioning stream presently exists within the transmission corridor. This wetland and any relict stream channel(s) that it may contain will not be crossed by construction equipment.

**10. Signs**

No signs will be constructed as part of this project.

## 11. Storm Water Runoff

The MDEP has determined that a post-construction stormwater plan is not necessary for the transmission line components of the MPRP. Within the shoreland zone in the Town of Bowdoinham, concrete or paved impervious surface areas related to the MPRP will be limited to lattice tower and monopole transmission line structures. The lattice towers will each have a concrete foundation that may be up to 1000 square feet in area. It is possible that the foundations will be smaller and limited to approximately 10 foot by 10 foot at each foot of the transmission towers, thereby reducing the foundation area of each lattice tower to approximately 400 square feet. Each of the steel monopoles in the shoreland zone will have a 40-120 square foot concrete foundation. The size of each foundation will be dependent on soil conditions at the location of each transmission line structure, which will be evaluated prior to construction. Because the individual and total area of the concrete foundations will be small, and because the MPRP transmission corridor will continue to be maintained in a vegetated shrub-meadow or agricultural cover type subsequent to construction the MPRP will not significantly increase stormwater runoff.

## 12. Septic Waste Disposal

In the Town of Bowdoinham, no MPRP facilities will require on-site wastewater disposal systems. During construction, portable toilets will be provided for construction workers, which will be transported, serviced, and maintained by a licensed wastewater hauling contractor. Portable toilets will be located so that they do not pose a risk to water quality or impact agricultural operations.

## 13. Essential Services

(a) A guiding principle in the design of the MPRP transmission line upgrades has been to utilize CMP's existing transmission line corridors to the maximum extent possible. Only where existing corridors cannot accommodate the proposed upgrades while meeting safety and reliability standards is CMP seeking to widen the existing corridors. Creating an entirely new corridor is a last resort. As a result, the vast majority of the transmission line upgrades proposed as part of the MPRP are located within or immediately adjacent to existing corridors. Co-location of the transmission line upgrades, as opposed to the creation of new corridors, has multiple benefits, including the minimization of impacts to communities, individual property owners, and the environment. Within the Town of Bowdoinham, the proposed MPRP construction is located within CMP's existing service corridor.

(b) Within the corridor, CMP has, to the greatest extent practicable, sited each transmission line structure so as to avoid, and where unavoidable, to minimize, adverse impacts on surrounding uses and resources. A discussion of MPRP alternatives and how the existing design was evaluated for environmental impacts and modified to avoid and minimize impacts is included under the section of this application addressing Article 10 Criterion E(17). Through this process, the total number of new transmission line structures or towers within the Resource Protection District will be limited to two. A third lattice tower adjacent to the Kennebec River will be demolished and replaced. The location of each of these is summarized below, along with an explanation as to why there is no reasonable alternative to the proposed location:

- Proposed Lattice Tower 375-416: This lattice tower is located directly on the Resource Protection District Boundary defined by the limits of the FEMA mapped 100-year floodplain of the Abagadasset River. The lattice tower is proposed as close as possible to the Abagadasset River to minimize the span distance and minimize the lattice tower size on both sides of the crossing. The tower has been located as close as possible to the edge of the river, while avoiding impacts to Brown's Point Road, and the bank, bed, channel and tidal portions of the river. Since the lattice tower does not pose a significant flood hazard, moving the lattice tower out of the Resource Protection District would have no practical benefit, but would have the undesirable impact of increasing tower heights on both sides of the Abagadasset crossing, lengthening the span distance over the Abagadasset, and moving the tower closer to the angle point structure located to the east. Therefore, there is no reasonable alternative to the proposed location that would have a significantly reduced impact to the Resource Protection District.
- Proposed Monopole 81/377-161A: This monopole is located within a Resource Protection District defined by the extent of a moderate value inland waterfowl and wading bird habitat identified and mapped by the Maine Department of Inland Fisheries and Wildlife. Although the monopole is located within the Resource Protection District, it has been located outside of the wetland boundary and at the edge of the FEMA-mapped 100 year floodplain associated with this wetland. By doing so, disturbance to the wetland and floodplain has been minimized without compromising or impacting the functions of either of these resources, while meeting the design need for a transmission line structure in this vicinity.

The monopole must be located within the Resource Protection District because a structure is needed between each of the adjacent structures, and the Resource Protection District includes most of the land area between each of the adjacent structures. There is no available location for the monopole outside of the Resource Protection District that would meet the engineering need. Spanning the Resource Protection District entirely would require larger and more robust towers, which are more expensive and have more of a visual impact. Therefore there is no reasonable alternative to the proposed location that would have a significantly reduced impact to the Resource Protection District.

- Replacement Lattice Tower 81/377-164: This lattice tower will replace the existing Section 81 lattice tower on the western side of the Kennebec River crossing. The existing tower and the proposed tower both partially overlap with a Resource Protection District that is defined by the limits of the FEMA mapped 100-year floodplain of the Kennebec River. However, the large embankment along the river at this location suggests the elevation of the tower footing may be above the approximately 10 foot elevation of the 100 year floodzone.

There is no reasonable alternative to the proposed tower location. The transmission lines will span a distance of approximately 1,900 feet (0.36

miles) across the Kennebec River, which must be minimized by locating the structures close to the water's edge. The site is presently impacted by the existing Section 81 lattice tower, so it is not justifiable to impact a new site in the shoreland zone to build a new lattice tower. Finally, because of the nature of the proposed work, the 100-year floodplain will not be compromised.

In conclusion, there are no reasonable alternatives to the proposed locations of these three transmission line structures within the Resource Protection District. The amount of ground disturbance associated with each lattice tower or monopole will be small, i.e., limited to the immediate vicinity of the pole placements, and because the project is within the existing transmission line corridor (which contains existing transmission line structures of a similar bulk and style), the overall impact of locating these transmission line structures within these districts is minimized. The overall environmental, technical/design, or visual impact of any of the discussed alternatives would be greater than the impacts associated with the proposed transmission line structure locations.

#### **14. Mineral Exploration and Extraction**

Prior to the start of construction, small exploratory mechanical excavations or borings for geotechnical evaluations may be necessary where foundations will be needed for the transmission line structures. Each excavation or boring will generally be less than 100 square feet in area. Any excavations will be immediately backfilled with the native soil material when the evaluation is completed, and scheduled so as not to impact agricultural operations. Mineral extraction is not part of the MPRP.

#### **15. Agriculture**

Not applicable. Agriculture is not part of the MPRP.

#### **16. Timber Harvesting**

Not applicable. Timber harvesting as a primary land use or activity is not part of the MPRP. Please refer to criterion "17. Clearing of Vegetation for Development" for additional information.

#### **17. Clearing or Removal of Vegetation for Activities Other Than Timber Harvesting**

As mentioned in the preceding discussion of project impacts in the shoreland zone, trees and capable species will be removed from the existing corridor as is presently done approximately every four years for routine maintenance. This vegetation management is a necessary component of the permitted use, and is required for safety and transmission reliability. In addition, as part of this vegetation maintenance, a stand of planted pine trees surrounding the lattice towers at the Kennebec River crossing will be removed.

New clearing of forest or small natural stands of trees will also occur in the vicinity of structures 375-414, 375-415, 375-416, 375-417 to accommodate the proposed construction. These new areas of tree clearing are shown on the Project Scope and Natural Resources Maps Provided in Exhibit 1.

Some limited and temporary clearing of tall shrubs and saplings will also be necessary in the construction area around certain transmission structures, and along certain construction access ways. Root systems will remain intact and stumps will not be removed except where it poses a safety hazard to equipment access. Subsequent to

construction and site restoration these areas of the corridor will exhibit the early-successional habitat type that is typical of the existing transmission line corridor within a relatively short period of time (generally within one calendar year).

## **18. Erosion and Sediment Control**

Erosion and sedimentation control measures related to construction of the MPRP are addressed in the discussion of Article 6, Criterion D. “Erosion and Sedimentation Control”. Information regarding construction best management practices and erosion and sediment control measures that CMP will implement during construction are specified in its Environmental Guidelines (see Exhibit 3).

## **19. Soils**

CMP conducted a Geographic Information System (GIS) analysis of soil suitability within the proposed MPRP transmission line corridor using the Soil Survey Geographic Database (SSURGO) compiled by the United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS). Soils mapped on the SSURGO database within the shoreland zone of the MPRP corridor in Bowdoinham include:

### Hadley Series:

Hadley series soils are very deep, well drained soils formed in silty alluvium of flood plains. Silty surface horizons and subsoils may be underlain by or interstratified with fine sand. Slopes may range from 0 to 3 percent. The seasonal high water table is greater than 40 inches from the soil surface, and depth to bedrock is greater than 60 inches from the surface.

Limitations of Hadley soils relative to the proposed construction are that the silty textured surface horizons can be prone to erosion, especially in sloping areas. This limitation will be overcome by implementing the erosion and sediment control measures specified in CMP’s Environmental Guidelines (see Exhibit 3) during construction, and also by routine inspections by the Environmental Inspector.

### Winooski Series:

Winooski series soils are very deep, moderately well drained soils formed in alluvium of flood plains with fine sandy loam to silt loam textures. Slopes may range from 0 to 3 percent. A seasonal high water table is present from 16 to 40 inches from the soil surface for some part of the year, and depth to bedrock is greater than 60 inches from the surface.

Limitations of Winooski soils relative to the proposed construction are that the silty textured surface horizons can be prone to erosion, especially in sloping areas. This limitation will be overcome by implementing the erosion and sediment control measures specified in CMP’s Environmental Guidelines (see Exhibit 3) during construction, and also by routine inspections by the Environmental Inspector.

### Limerick Series:

Limerick series soils are very deep, poorly drained hydric soils with silt loam to very fine sandy loam textures, and that have formed in alluvial deposits of flood plains. Slopes may range from 0 to 3 percent. A seasonal high water table is present within seven

inches from the soil surface for some part of the year, and depth to bedrock is greater than 60 inches from the surface.

Limitations of Limerick soils relative to the proposed construction are that the silty textured surface horizons can be prone to erosion; seasonal or year round saturation, and occasional surface ponding. Limitations related to erodible surface textures will be overcome by implementing the erosion and sediment control measures specified in CMP's Environmental Guidelines (see Exhibit 3) during construction, and also by routine inspections by the Environmental Inspector. Limitations related to wetness will be overcome by avoiding these soils with temporary access ways, and where they cannot be avoided, by construction during frozen ground conditions or the use of temporary construction mats to avoid erosion, rutting, compaction, and structural damage to soils.

#### Tidal Marsh:

Tidal marsh soils are very poorly drained hydric soils formed in estuarine deposits and organic materials. Tidal marsh soils have not been differentiated to the series level. Slopes are flat. Tidal marsh soils are continuously saturated at or near the soil surface, are inundated by tidal waters on a daily or regular basis, and have a high organic matter content.

Limitations of tidal marsh soils relative to the proposed construction are constant saturation, daily/frequent inundation, and lower bearing capacity. Because of these limitations, tidal marsh soils will be avoided during construction and will not be impacted.

In summary, soils within the project area are generally well suited to the proposed construction, and where limitations do exist, can be easily overcome by construction best management practices. In addition to the evaluation of soils that has been conducted using the published Soil Survey data, additional site-specific geotechnical investigations will be conducted at the proposed foundation locations prior to the start of construction. Foundations will be sized and designed in accordance with the findings of the geotechnical investigations.

## **20. Water Quality**

During construction, fuel (diesel and unleaded gasoline) and hydraulic and lubricating oils will be used in the operation of vehicles and construction equipment. Small quantities of such materials may be kept in vehicles for use in refueling and maintenance of construction equipment. All refueling activities will be located at least 100 feet from wetlands, water bodies, and streams.

If temporary fuel storage is necessary for construction in Bowdoinham, all fuel will be located at least 100 feet from wetlands, water bodies, and streams, and at least 200 feet from a private water supply. Furthermore, as specified in the "Environmental Control Requirements For Contractors and Subcontractors of Central Maine Power Company – Oil and Hazardous Material" (see Exhibit 5) all gasoline and fuel storage tanks will have secondary containment constructed of impervious material that will be capable of holding 110% of the storage tank capacity. Petroleum based products will be stored in

Department of Transportation approved containers. Hazardous waste will not be generated or stored in the transmission corridor subsequent to construction.

After construction, the transmission line corridor will continue to be maintained in the same manner as it currently is to encourage a shrub-meadow cover type. Trees and capable species will be removed for safety and reliability reasons. CMP will continue to use a selective herbicide program to treat an area once every four years to maintain an early successional stage of growth. Herbicide is selectively applied (using a low-pressure backpack applicator) to capable species to prevent growth (or re-growth of a cut plant) of individual plants. CMP does not use herbicides within at least 25 feet of any waterbody or wetland with standing water, or within 100 feet of known well at the request of the well-owner. Crew forepersons are certified by the Maine Pesticide Control Board, and all herbicides are Environmental Protection Agency (EPA) registered. The selective use of herbicides within the transmission line corridor does not pose a threat to water quality.

## **21. Archaeological Sites**

During the past several years, CMP has engaged in extensive consultation with the Maine Historic Preservation Commission (MHPC) regarding the investigation of pre-contact archeological, post-contact archeological, and historic architectural resources within the MPRP area of potential effect (APE) that are listed on or eligible for listing on the National Register of Historic Places (NRHP).

During the period 2008-2010, CMP's consultants conducted reconnaissance level pre-contact and post-contact cultural resource surveys to identify resources that might be impacted by project related activities within the MPRP APE. After consultation with the MHPC regarding the results of the reconnaissance level surveys, CMP conducted more intensive surveys to determine site significance (eligibility for listing in the National Register of Historic Places) on a number of potentially eligible archaeological sites within the APE.

Similarly, during the period 2008-2010, CMP's consultants conducted architectural surveys in accordance with MHPC guidelines to identify any potential historic above-ground structures that are listed on or eligible for listing on the NRHP that are located within the APE and to determine any adverse impacts on those properties from MPRP.

As a result of these surveys, the MHPC determined that there are no eligible or potentially eligible pre-contact or post-contact archaeological sites in Bowdoinham that would be adversely impacted by the MPRP. The MHPC also determined that there are no eligible or potentially eligible historic architectural structures in Bowdoinham that would be adversely impacted by MPRP.

## **22. Marinas**

Not applicable. Marinas are not part of the MPRP.

## **Article 8: Floodplain Management**

Portions of the MPRP will be located within areas of special flood hazard by the Federal Emergency Management Agency. For the purposes of floodplain management, the proposed construction activities within flood hazard development areas are classified as “minor development”. These activities include the installation of five transmission line structures, removal of four existing transmission line structures, vegetation management, and use of temporary access ways incidental to project construction. The proposed infrastructure within the MPRP corridor would be safe from flood damage and would not increase flood hazards in Bowdoinham or downstream areas. CMP will submit a flood hazard development permit to the Code Enforcement Officer (CEO) prior to the start of construction, or obtain a written determination from the CEO that no permit is necessary.