MAINE POWER
RELIABILITY PROGRAM

A CENTRAL MAINE POWER COMPANY PROGRAM

RUMFORD, MAINE

PERMIT APPLICATION FOR FLOOD HAZARD DEVELOPMENT

Section 243A Transmission Line Construction
and
Section 229 Transmission Line Rebuild

Prepared for:

Central Maine Power Company
83 Edison Drive
Augusta, Maine 04336

Prepared by:

TRC

TRC Engineers, LLC
249 Western Avenue
Augusta, Maine 04330

August 2009

MAINE POWER
RELIABILITY PROGRAM
A CENTRAL MAINE POWER COMPANY PROGRAM
WWW.MAINEPOWER.COM

August 25, 2009

Mr. Richard Kent, Code Enforcement Officer
Town of Rumford
145 Congress Street
Rumford, ME 04276

RE: Central Maine Power Company
Maine Power Reliability Program
Flood Hazard Development Permit Application

Dear Mr. Kent:

TRC, on behalf of Central Maine Power Company (CMP), is submitting one (1) copy of a Flood Hazard Development Permit Application to you for the proposed Maine Power Reliability Program (MPRP). The portion of the MPRP located in Rumford involves the construction of a new 115 kilovolt (kV) electric transmission line identified as "Section 243A" and the rebuild of the existing 115 kV electric transmission line identified as "Section 229".

The project is part of the MPRP, a program to upgrade Maine's bulk power system throughout the State of Maine. The proposed activities in Rumford will take place entirely within approximately 1.8 miles of existing CMP transmission line corridor that runs from the Rumford Industrial Park southeasterly through Rumford and into Peru.

If you have any questions regarding this application, please contact me at 879-1930 ext. 112 or sswiezynski@trcsolutions.com.

Sincerely,

Stephenie Swiezynski
Environmental Scientist

400 Southborough Drive, South Portland, Maine 04106 | (207) 879-1930 | (207) 879-9293 (FAX)

Application Form

FLOOD HAZARD DEVELOPMENT APPLICATION
RUMFORD, Maine

(All applicants must complete entire application)
[60.3(c&d)]

Application is hereby made for a Flood Hazard Development Permit as required under Article II of the Floodplain Management Ordinance of _____, Maine, for development as defined in said ordinance. This permit application does not preclude the need for other municipal permit applications.

Owner: _____ Address: _____

Phone No.: _____ _____

Applicant: _____ Address: _____

Phone No.: _____ _____

Contractor: _____ Address: _____

Phone No.: _____ _____

LEGAL DESCRIPTION

Is this part of a subdivision? ☐ Yes ☑ No If yes, give the name of the subdivision and lot number:

Subdivision: _____ Lot #: _____

Tax Map: _____ Lot #: _____

Address: _____
Street/Road Name

Zip Code: _____
Town/Zip Code

General explanation of proposed development: _____

_____

Estimated Value of Proposed Development: $_____

Proposed Lowest Floor elevation [for new or substantially improved structure]: _____

OTHER PERMITS

Are other permits required from State or Federal jurisdictions? ☑ Yes ☐ No
If yes, are these other permits attached? ☐ Yes ☑ No ☐ Not Applicable

Federal and State Permits may include but are not limited to: ME/DEP/Natural Resource Protection Act, Site Location of Development Act, Metallic Mineral Exploration, Advanced Exploration and Mining; USACE/Section 9 &10 of the Rivers and Harbors Act/ Section 404 of the Clean Water Act; Federal Energy Regulation Commission.

SEWER AND WATER

Sewage Disposal: ☐ Public ☐ Private
☐ Existing ☐ Proposed ☑ Not Applicable Type _____

Water Supply: ☐ Public ☐ Private ☑

(This section to be completed by Municipal Official)

LOCATION

Flooding Source (name of river, pond, ocean, etc.): _____

☐ AE Zone ☐ A1-30 Zone ☐ A Zone ☐ FRINGE ☐ FLOODWAY (2 width of floodplain in A Zone)

Base Flood Elevation (bfe) at the site _____ NGVD [Required for New Construction or Substantial Improvement]

Lowest floor elevation of proposed or existing structure _____ NGVD [Required for New Construction or Substantial Improvement]

If proposed development is in an AE or A1-30 Zone and cross section data is available in the Flood Insurance Study, please note the nearest cross section reference letter and elevation of base flood at nearest cross section above and below the site.

Cross Section Letter	Base Flood Elevation
Above Site _____	Above Site _____
Below Site _____	Below Site _____

Basis of unnumbered A Zone bfe determination:

☐ From a Federal Agency: ☐ USGS ☐ USDA/NRCS ☐ USACE ☐ Other _____
☐ From a State Agency: ☐MDOT ☐ Other _____
☐ Established by Professional Land Surveyor
☐ Established by Professional Engineer ☐ HEC/RAS ☐ HEC II ☐ HY 7 ☐ TR20 ☐ TR55 ☐ Quick-2
☐ Other _____
☐ Highest Known Water Level
☐ Other (Explain) _____

VALUE

If the development involves work on an existing structure, enter the **Market Value** of existing structure before improvements:
$ _____

☐ New Construction or Substantial Improvement ☐ Minor improvement or minor addition to existing development

TYPE OF DEVELOPMENT

Check the appropriate box to the left of the type(s) of development requested and complete information for each applicable line:

	Dimensions
☐ 1. Residential Structure	
☐ 1a. New Structure	_____
☐ 1b. Add to Structure	_____
☐ 1c. Renovations/repairs/maintenance	
☐ 2. Non-Residential Structure	
☐ 2a. New Structure	_____
☐ 2b. Add to Structure	_____
☐ 2c. Renovations/repairs/maintenance	
☐ 2d. Floodproofing	
☐ 3. Accessory Structure	_____
☐ 4. Functionally Dependent Use:	
☐ 4a. Dock	_____
☐ 4b. Pier	_____
☐ 4c. Boat Ramp	_____
☐ 4d. Other	_____
☐ 5. Paving	_____
☐ 6. Conditional Use (Lobster/Fish Shed seaward of mean high tide)	

Note: Conditional Use requires add'l. information due to specific standards, public hearing, and Planning Board review.

	Cubic Yards
☐ 7. Filling[1]	_____
☐ 8. Dredging	_____
☐ 9. Excavation	_____
☐ 10. Levee	_____
☐ 11. Drilling	

	Number of Acres
☐ 12. Mining	_____
☐ 13. Dam: Water surface to be created	_____
☐ 14. Water Course Alteration	_____

Note: Detailed description must be attached with copies of all applicable notifications, state and federal permits.

☐ 15. Storage of equipment or materials
☐ 16. Sewage Disposal System
☐ 17. Water Supply System
☑ 18. Other: Explain _____

[1] Certain prohibitions apply in Velocity Zones

Attach a Site Plan – Drawn to scale with north arrow.

- Show property boundaries, floodway, and floodplain lines.
- Show dimensions of the lot.
- Show dimensions and location of existing and/or proposed development on the site.
- Show areas to be cut and filled.

Attach Statement – describing in detail how each applicable development standard in Article VI will be met.

For New Construction or Substantial Improvement also show:

- Existing and proposed grade elevations adjacent to the walls of the structure done by a Professional land Surveyor, Architect, or Engineer.
- Location and elevation of temporary elevation reference marks on the site.

Special Note:
Substantial Improvement is defined as any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. Please refer to the floodplain management ordinance, Article XIV, for more complete definitions of New Construction and Substantial Improvement.

The applicant understands and agrees that:

- The permit applied for, if granted, is issued on the representations made herein;
- Any permit issued may be revoked because of any breach of representation;
- Once a permit is revoked all work shall cease until the permit is reissued or a new permit is issued;
- Any permit issued on this application will not grant any right or privilege to erect any structure or sue any premises described for any purposes or in any manner prohibited by the ordinances, codes, or regulations of the municipality;
- The applicant hereby gives consent to the Code Enforcement Officer to enter and inspect activity covered under the provisions of the Floodplain management Ordinance;
- If issued, the permit form will be posted in a conspicuous place on the premises in plain view; and,
- If issued, the permit will expire if no work is commenced within 180 days of issuance.

I hereby certify that all the statements in, and in the attachments to this application are a true description of the existing property and the proposed development project.

Owner: _____ Date: _____
Signature

or

Authorized Agent: _____ Date: _____
Signature

(This section to be completed by Municipal Official)

Date: Submitted _____; Fee Paid _____; Reviewed by CEO _____; Reviewed by Planning Board _____

Permit # _____ Issued by _____ Date _____

Agent Authorization Letter

Central Maine Power

August 15, 2008

Bureau of Land & Water Quality
Division of Land Resource Regulation
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Municipalities (various)

Federal Agencies (various)

RE: Central Maine Power Company - Maine Power Reliability Program (MPRP)
Agent Authorization

To Whom It May Concern:

Central Maine Power Company hereby authorizes TRC Engineers, Inc. and TRC staff to act as its agent for all activities associated with the acquisition of Federal, state and local permits related to the above referenced project.

Please call me at 626-9557 or email me at gerry.mirabile@comco.com with any questions. Thank you.

Sincerely,

Gerry J. Mirabile
Lead Analyst - Compliance

Permit Application for Flood Hazard Development

Maine Power Reliability Program Description

The Maine Power Reliability Program (MPRP) is a project by Central Maine Power Company (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 takes over by carrying 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 reliability issues with the 345 kV system that need to be assessed and addressed.

In January 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 infrastructure in all regions served by CMP.

After completing the needs assessment, the MPRP team went to work to study possible solutions. This included both transmission and non-transmission alternatives, including energy efficiency, before designating its preferred solution. CMP ultimately selected a primarily transmission solution (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 345 kV and 115 kV transmission lines and associated substations throughout CMP's service territory where particular needs were identified (Figure 1).

The proposed transmission solution ranges from Eliot in the south, Rumford in the west, Warren and Searsport in the east, and Orrington and Pittsfield to the north. In all, MPRP will encompass nearly 80 Maine towns, and will require approvals from the Maine Public Utilities Commission, the Maine Department of Environmental Protection, and numerous municipalities.

Project Description in Rumford

The part of the program located in Rumford involves work in an existing transmission line corridor that extends through the southeastern portion of Town for approximately 1.8 miles, from the Rumford Industrial Park southeasterly through Rumford and into Peru. See attached location maps included as Exhibit 1 and ROW configuration included as Exhibit 2. Specifically, the project involves:

- Rebuilding the existing Section 229 115 kV electrical transmission line. This transmission line, which currently runs on approximately 45-foot tall H-frame structures in the center of the corridor, will be moved to the south side of the corridor and placed on single-pole structures that are typically 75 feet above ground. Each single pole will require approximately 40 square feet of ground disturbance during construction.

- Installing a new 115 kV transmission line, Section 243A. This new transmission line will run on H-frame structures that are typically 75 feet above ground, and will be located in the existing corridor. Each single pole will require approximately 40 square feet of ground disturbance during construction.

Structure heights will vary due to varying terrain and the need to achieve spans that will avoid or minimize impacts to natural resources. Typical above ground structure heights are described above, although some structures may exceed those heights in specific instances. See the attached table (Exhibit 3) for a description of the number of structures within specific height ranges for the rebuilt and new transmission line sections.

The proposed upgrades in Rumford, as outlined above, are a part of the program to improve the reliability, safety, and security of the bulk power transmission system in Maine, while at the same time meeting the increasing demands for electrical power.

This application describes the MPRP's compliance with the Floodplain Management Ordinance for the Town of Rumford, Maine (effective June 13, 1995). This application identifies the regulated Federal Emergency Management Agency (FEMA) delineated floodplains impacted by the MPRP and addresses the requirements of Article III and Article VI of the Rumford Floodplain Management Ordinance.

FEMA Flood Zones

The proposed project will cross one FEMA-mapped 100-year Flood Zone. As shown on the FEMA Flood Insurance Rate Maps (FIRM) for the Town of Rumford (Community Panel No. 230098, July 16, 1980), the flood zone associated with Wyman Brook is identified as Zone A.

Currently, one H-frame structure (a total of two poles) associated with Section 229 (Structure 189) is located within this flood zone. CMP proposes to remove this H-frame structure and install one single pole (Pole 229-181) (see Figure 2). The amount of ground disturbance associated with construction will be small (i.e., approximately 40 square feet) and limited to the immediate vicinity of the pole location.

In addition, CMP proposes to install a temporary access way to cross this brook and flood zone during construction. Measures will be taken to avoid and minimize impacts to Wyman Brook and associated wetlands through the use of crane mats, temporary bridges, geo-textile fabrics, and culverts, when necessary.

CMP's proposed construction within this flood zone is not anticipated to have any significant impact on flood levels given the minimal potential displacement of flood water by the transmission line poles. In fact, CMP is proposing to replace the two-pole structure with a single pole structure; therefore, there will be less of an impact in the floodplain area. Furthermore, the diameter of the new pole would not be significantly larger than that of the existing poles currently located in the floodway.

The following section discusses CMP's compliance with the review standards of the Rumford Floodplain Management Ordinance.

Article III – Application for Permit

The following section includes the information requested in Article III of the Town of Rumford Floodplain Management Ordinance.

A. Name, Address, and Phone Number

Applicant:

Central Maine Power Company
83 Edison Drive
Augusta, Maine 04336
Attention: Mary Smith (207)623-3521

Applicant's Agent:

TRC
400 Southborough Drive
South Portland, ME 04106
Attention: Stephenie Swiezynski (207)879-1930 ext.112

B. Map of Construction Site

The Project Overview Map (Exhibit 1) provides a U.S. Geological Survey map showing the extent of the MPRP in the Town of Rumford.

C. Site Plan of Existing and Proposed Development

The flood zone information from the FEMA FIRM for the Town of Rumford has been incorporated into the MPRP mapping. Exhibit 1 includes aerial photo based maps (Maps 1 – 3) showing detailed project information in Rumford including the location of the CMP corridor, existing and proposed pole locations, proposed access ways, flood zones, wetlands and waterbodies, and other natural resource data.

D. Statement of Intended Use

The proposed development in the floodplain consists of the reconstruction of the existing Section 229 115 kV transmission line and the construction of the new Section 243A 115 kV transmission line within the Town of Rumford.

E. Statement of Sewage System Type

Not applicable. No sewage system is proposed as part of this project in the Town of Rumford.

F. Specification of Dimensions

The portion of the MPRP in Rumford will be built entirely within an existing transmission line corridor, and thus CMP will not need to expand the corridor or conduct additional clearing for this project. The diameter of the new single transmission line pole proposed within the floodplain of Wyman Brook will not be significantly larger than that of the poles associated with the existing Section 229 H-frame structure that is currently located in the floodplain. In fact, CMP is proposing to replace the two-pole structure with a single pole structure; therefore, there will be less of an impact in the floodplain area. However, the above ground height of the poles will increase from a typical above ground height of 45 feet for the existing H-frame structures to a typical above ground height of 75 feet for the new single transmission poles. Exhibit 3 provides a table showing the height ranges of the proposed transmission line poles in Rumford.

G - J. Elevation Information

The standards at Sections G through J apply only to the new construction or substantial improvement of "structures" as defined in the Town of Rumford Floodplain Management Ordinance. The single transmission line pole proposed within the 100-year floodplain is not defined as a structure because it does not consist of a walled and roofed building. Instead, the placement of the pole is defined as "minor development" under the Rumford Ordinance. As such, the elevation requirements in Sections G through J do not apply to the proposed work in the Wyman Brook floodplain in Rumford.

K. Water Course Alteration

The proposed project includes the removal of existing 115 kV transmission line poles and the installation of new 115 kV poles and, as such, will not alter or relocate the course of Wyman Brook. No poles will be placed within Wyman Brook.

L. Compliance with Article VI

The project's compliance with the Article VI Development Standards are presented in the following section.

Article VI - Development Standards

A. All Development

The transmission line pole proposed within the floodplain will be adequately anchored to prevent flotation, collapse, or lateral movement during a flood. In general, the poles are buried to a depth measuring ten percent of the total pole length plus two feet. For example, a 90-foot pole would be buried eleven feet below the ground surface. All construction will be conducted in accordance with CMP's transmission standards (Exhibit 4), general industry standards, and "Good Utility Practice," including all necessary liveline working clearances, strength factors, and reliability factors as governed by the NESC. In all instances, the line will be designed to meet or exceed the NESC and other standards, as applicable. The transmission line and all facilities will be operated in full compliance with CMP safety standards, which fully comply with Federal OSHA requirements.

B. Water Supply

Not applicable.

C. Sanitary Sewage Systems

Not applicable.

D. On-site Waste Disposal Systems

Not applicable.

E. Watercourse Carrying Capacity

Not applicable.

F. Residential

Not applicable.

G. Non-residential

Not applicable.

H. Manufactured Homes

Not applicable.

I. Recreational Vehicles

Not applicable.

J. Floodways

CMP does not propose any development for the MPRP within the regulatory floodways identified by FEMA in the Town of Rumford.

K. Elevations

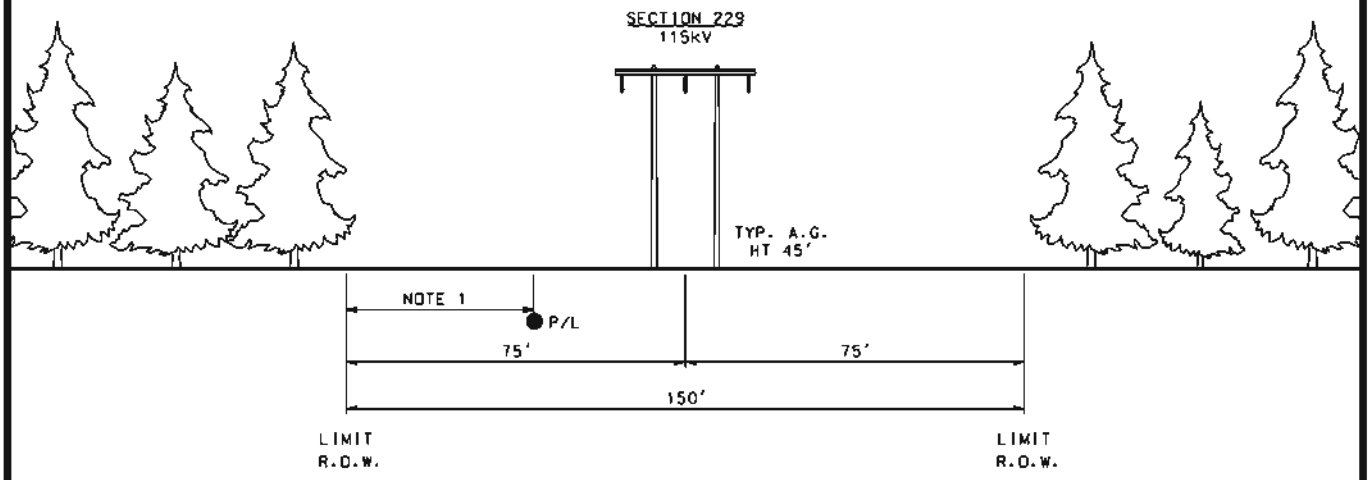
The elevation requirements do not apply to the proposed work in the Wyman Brook floodplain because the poles proposed within the 100-year floodplain are not defined as structures.

EXHIBIT 1
Transmission Line Corridor on Topo Maps

EXHIBIT 2
Transmission Line Configuration Cross Sections

NOTE 1: GAS PIPELINE LOCATION VARIES ALONG R.O.W.

EXISTING



LOOKING FROM RILEY S/S TOWARDS RUMFORD IP S/S
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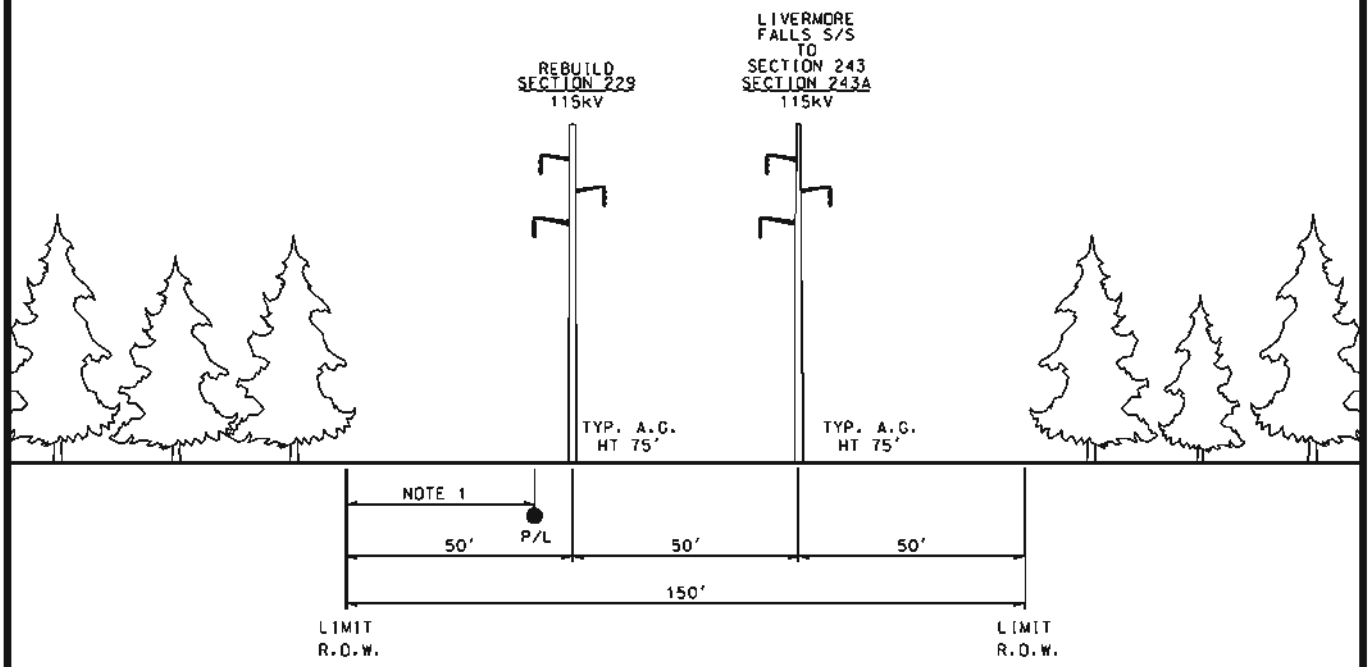
PROPOSED



LOOKING FROM RILEY S/S TOWARDS RUMFORD IP S/S
(APPROX. 12.3 MILES)

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

-DRAFT-
FOR REVIEW ONLY

ENG. CONTRACTOR

NO.	REVISION	DATE	BY
		/ /	
		/ /	
		/ /	
		/ /	
B	UPDATED WITH S243A	2/5/09	PEI
A	ISSUED FOR REVIEW	1/28/08	PEI

SECTION 229 | TP 29 TO POLE 182 | STA. 0+00=348+41.38 TO 997+65

MAINE POWER RELIABILITY PROGRAM

EXISTING AND PROPOSED R.O.W.
ALTERNATIVE N5 FOR N-1-1 ANALYSIS

CHECKED		DESIGNED KJF	DATE 10/12/07
SGW	1/30/09	DRAWN SAT	APPR.
SCALE NTS		CENTRAL MAINE POWER CO. TRANSMISSION ENGINEERING	

SEGMENT 39

SHEET N5-39-4

FILE LOCATION R:\Projects\113403\DD\DWG\03_Line\ROW_X_SECTION\N-1-1_10_08_07\N5\Seg_39

SCANNED

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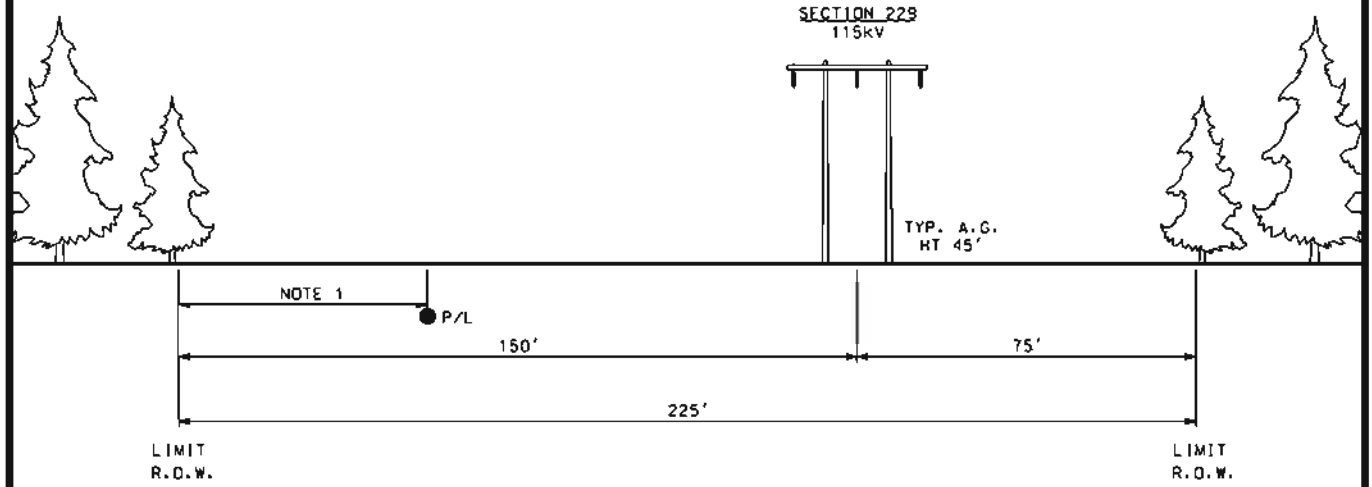
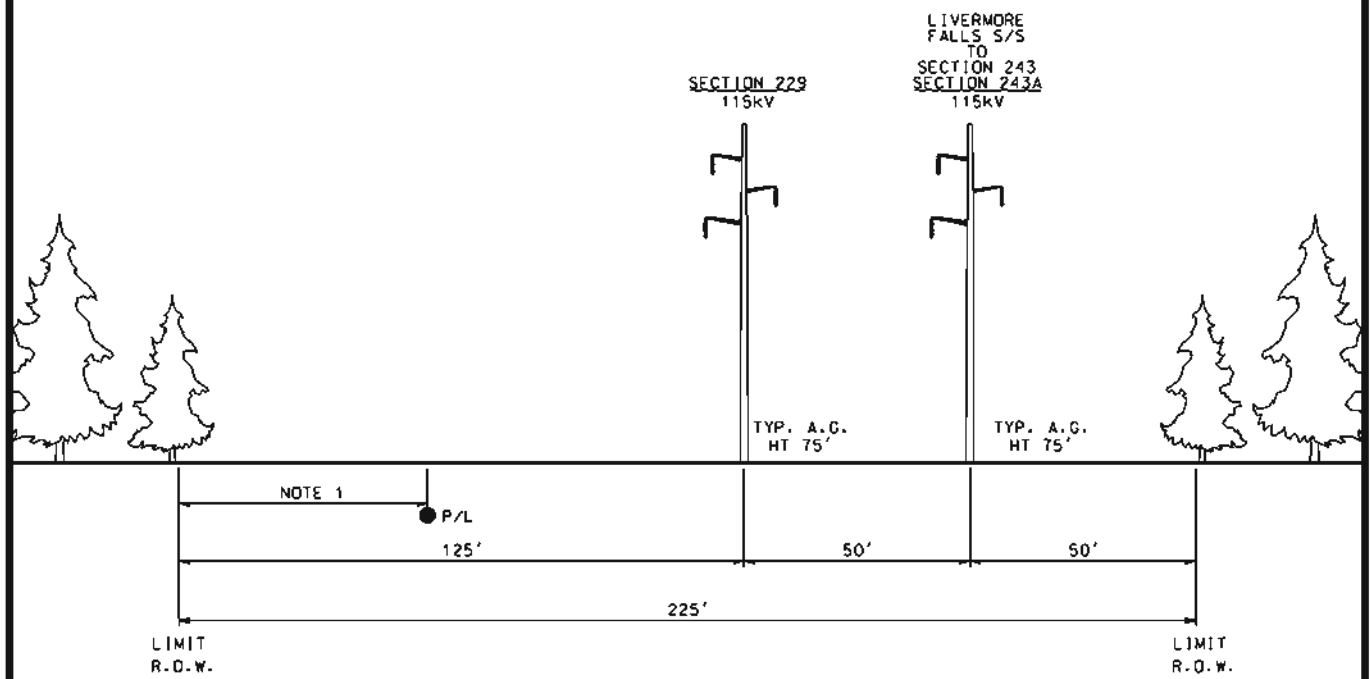
EXISTING



LOOKING FROM RILEY S/S TOWARDS RUMFORD IP S/S
(APPROX. 0.3 MILES)

PROPOSED



LOOKING FROM RILEY S/S TOWARDS RUMFORD IP S/S
(APPROX. 0.3 MILES)

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

-DRAFT-
FOR REVIEW ONLY

ENG. CONTRACTOR

NO.	REVISION	DATE	BY
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		/ /	
B	UPDATED WITH S243A	2/5/09	PEI
A	ISSUED FOR REVIEW	1/28/08	PEI

SECTION 229 | POLE 182 TO 186 | STA. 997+65 TO 1014+50

MAINE POWER RELIABILITY PROGRAM

EXISTING AND PROPOSED R.O.W.
ALTERNATIVE N5 FOR N-1-1 ANALYSIS

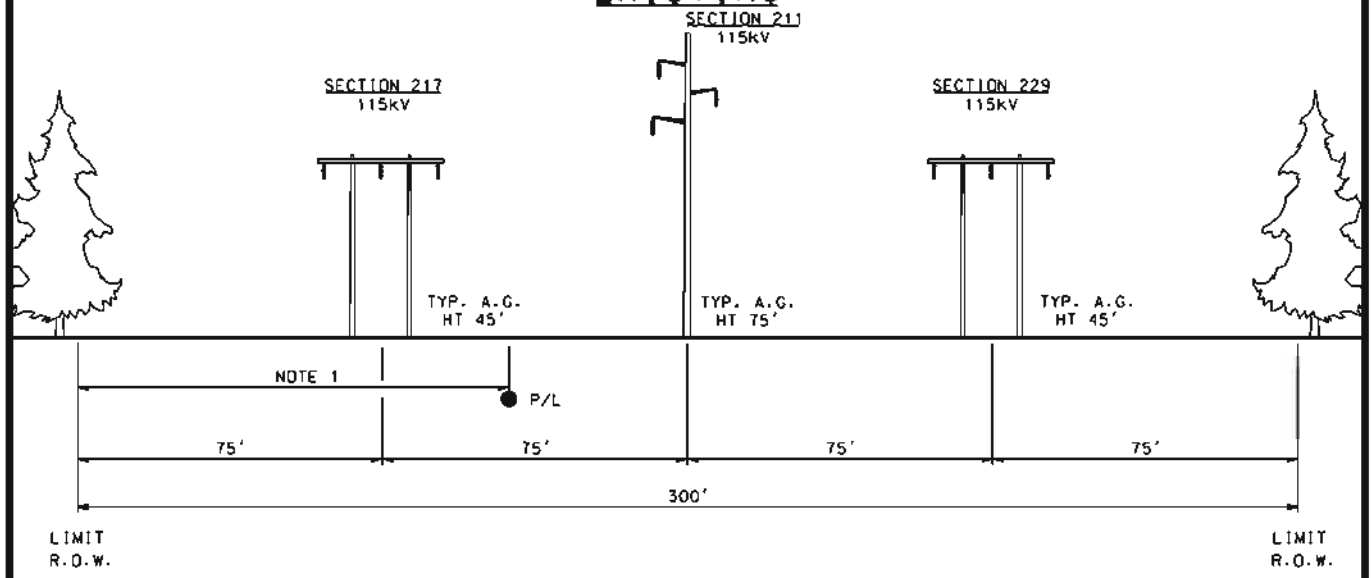
CHECKED		DESIGNED KJF	DATE 10/12/07
SGW	1/30/09	DRAWN SAT	APPR.
		CENTRAL MAINE POWER CO.	
SCALE NTS		TRANSMISSION ENGINEERING	

SEGMENT 39

SHEET N5-39-5

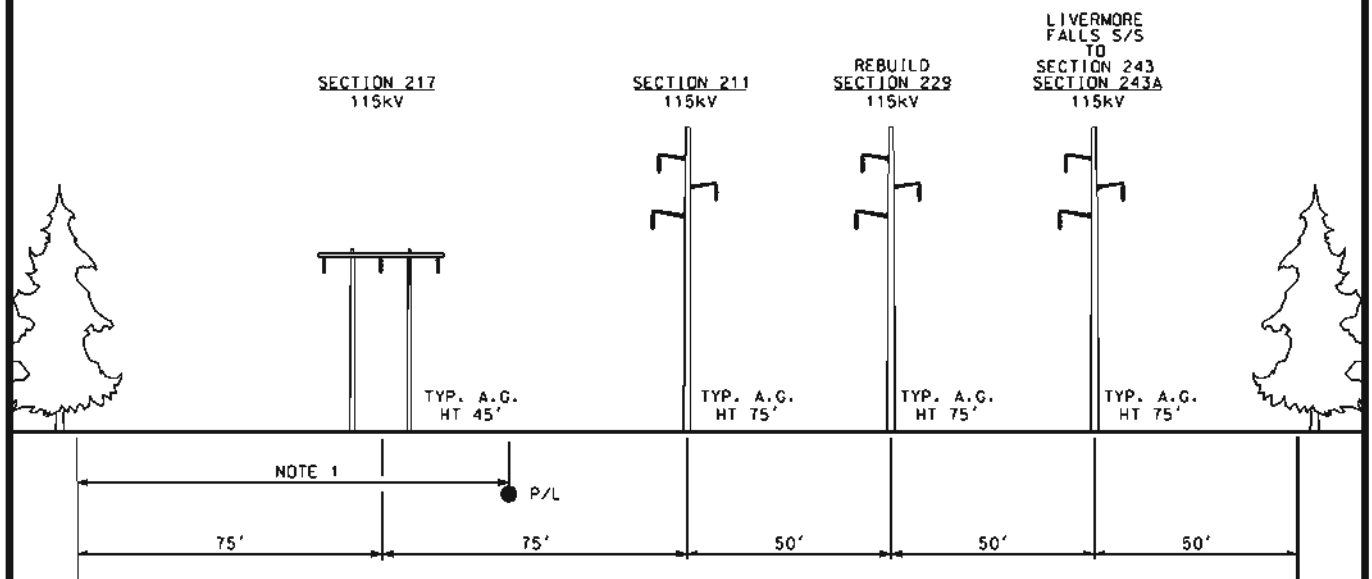
NOTE 1: GAS PIPELINE LOCATION VARIES ALONG R.O.W.

EXISTING



LOOKING FROM RILEY S/S TOWARDS RUMFORD IP S/S
(APPROX. 1.3 MILES)

PROPOSED



LOOKING FROM RILEY S/S TOWARDS RUMFORD IP S/S
(APPROX. 1.3 MILES)

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

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FOR REVIEW ONLY

ENG. CONTRACTOR

NO.	REVISION	DATE	BY
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		/ /	
B	UPDATED WITH S243A	2/5/09	PEI
A	ISSUED FOR REVIEW	1/28/08	PEI

SECT 229 | POLE 186 TO 4 (SECT 228) | STA. 1014+50 TO 1084+24 (SECT 228)

MAINE POWER RELIABILITY PROGRAM

EXISTING AND PROPOSED R.O.W.
ALTERNATIVE N5 FOR N-1-1 ANALYSIS

CHECKED		DESIGNED KJF	DATE 10/12/07
SGW	1/30/09	DRAWN SAT	APPR.
		CENTRAL MAINE POWER CO.	
SCALE	NTS	TRANSMISSION ENGINEERING	

SEGMENT 39

SHEET N5-39-6

SCANNED

FILE LOCATION R:\Projects\113403\DD\DWG\03_Line\ROW_X_SECTION\N-1-1_10_08_07\N5\Seg_39

FILENAME:S39-6.DGN

EXHIBIT 3
Structure Height Ranges

Pole Height Ranges in Rumford	
Above Ground Structure Height (ft)	**Number of Structures**
61 – 70	7
71 – 80	26
81 – 90	7
91 – 100	2
Total	**42**

EXHIBIT 4
Environmental Guidelines for Construction and Maintenance Activities on Transmission line and Substation Projects

EXHIBIT 5
List of Abutters

EXHIBIT 6
Proof of Right, Title or Interest