

Prep NOTES: For Gov's Office

11/18/07
Kerwin Tillis
Dick Davies
Cecilia Harris
Warr

MTG

- Normal Ops - CMP evaluates; Maintain Sr Reliable Service
- Higher voltage line - backbone - 345KV - built in 1971
36 years old. Maine res usage 40%; still loaded.
- ISO-NE operates the high voltage - NE
Annual RSP - identified - System Reliability; Security; State
- DOE - Transmission Congestion Study - Congestion Area of Concern
- BHE NRI Comprehensive Study

- CMP initiated Program this fall. MTRP. 10 years 2017
- CMP smaller; leaner; prices down 30% in 6 yrs
Cianbro; RLC Engr; BSGS; Pierce Atwood; Environ
- CMP - Provide Reliable Service. ISO Operates; I'D's weaknesses
and directs planning study.
Planning Standards; Reliability Standard - ISO; NERC
Natl Elec Reliability Council
- ISO Process involves oversight; peer review; PAC
- RLC - Refining the Study Scope.
- Currently scheduled introduce our Program/Scope to PAC 2/14
- Study - Needs Assessment; Various alternatives;
narrows to a proposed preferred alternative.
Electrically; Cost Effective; Feasible/Buiddable
Peer Review; PAC
- ISO approval of a solution later in year
- Then -> PUC - 2008

- Where Sum here -> Communicating - PUC OPA Chair Utility Comm
- Keep you; others informed - Background Reading / Meet again?

Notes for OPA -

2/5/07

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Commissioner Richardson + MCBA
Maine Dept of Economic ^{John} Community
Development Dana Connor
Peter Gore

TO/POUR

FROM/DE

SUBJECT/MATIERE

DATE

3/30/07

CMP - 3 Sizes of T/L's
Larger 2 - 115 KV & 345 KV
345 KV → Bulk Power

See Background notes from previous sessions.

We want to be kept informed.

Richardson: Combo alternative → T/L; Conservation
Economic Development *etc*

Dana C. - MCBA → Role may be communications
+ Peter Gore

Thinks MCBA should help keep issues factual and
what's retailed / not retailed.

PUC MTS

2/15/07

Quarterly update meetings w/ PUC.
Lower Churchill; Generation?
Edmonton → Oronago?

Kurt Adams
Vanden V
Sharon
Chuck Cohen
Ralph Howe
Sara
Scott
Coff
MRS

3/16/07 Update Commissioners - Kurt, Vanden, Sharon

4/13/07 Update Commissioners Kurt + Vanden
1st View of Segment Map
Questioned SPS's - Goal to eliminate all or not?
Does system meet NERC Criteria today?

6/29/07 Updated 3 Commissioners, Faith H, Chuck C.
Shaved State of Me w/ Shaded bubbles of problem areas
Shaved Map w/ N1-N5 + S1-S3 w/ explanation
^{Comm} Questioned transfer amounts & costs/economics of
alternatives

WDEP

Geoff
Mary
Scott
DAVID L.

4/13/07

Need Budget #'s for Infrastructure improvement.

Background of Acts etc
Minimal Investment Nationwide
Per Blackout

Recent Changes - ISO-NE
NERC Feb 2008 Northwest Electric Reliability Council

→ ^{CMP'S} ~~BUDGET~~ ^{INCONTINUED TO INVEST (?)}
NRI Budget

ISO RSP + DOE Long Term Study

CMP'S 345 System - 1971

Comprehensive Study even

Ciabrio's 10 YEAR Look - Marie Reliability
Role T/C + Non-T/C alternatives
Needs Assessment - April

not A Human Factors Assessment

Routes w/ Keyal Goals ←
Geoff

Not from Marie Connection

System well used - not easy to get out of

Schedules important

is out of work or want quick turnaround -

Review @ Conner Description
could hire at our expense -
outside consultant
extra money for staff

Dept. Open to that?
How?
Criteria?

Energy Policy Act of 1992 - FERC encouraged
Restructuring. Promotes competitive wholesale MKTs
~~Pass transfer~~

OS Dept of Energy Study - 2002 made it
clear new investment needed in electric
August 2003 - Widespread Blackout - 50 million people

Result of gaining concerns - Congress enacted -
Energy Policy Act of 2005 - ID for the next

ISO-NE Annual RFP

\$ 18	05
\$ 36	'06
\$ 80	mil '07

Consistent DER
Reason
Add'l Fee for
Supplement

Moorehead
BEP
BEP Briefing
Sig Wit
Wind Pools
Mitigate Impact
Electricity

4-18-07

POC ^{staff} Briefing

Tom Austin
Wanda White
Chuck Cohen
Dore Conway
Harold Smith
Geoff T
MRS

Strategy - Internal Maine
vs. Start w/ Transper to
make a case that others pay
yet Maine gets side benefits?

→ 2004-538 - MRS Case

Need to clearly state our philosophy on
SFS's - Good & Acceptable vs Remove
all vs. somewhere in between.

How will we treat RMR's

Vernal Pool crews out

Mid-June NTA Stakeholder mtg.

Future Mtgs - As Needed

Another mtg just prior to the
May 16th PAC mtg. -
Geoff to schedule

Maine Power Connection

Added:
MPS

Ward County

- ① Houlton → Hainsville - Bridle Path @ 20mi
Minimal interconnect
- ② Add'l 500mw of generation -
Acrostock wind?

2 Key Aspects:

Ensure no adverse impact on Me-NB Tie/line
" " " " " MPS System

Preliminary Needs - July ±
Formal Needs Report - Sept.

Wia study summer peak with
a ^{MPS} winter peaking sensitivity.

- Prep Notes

DOC] DIFW

5/1/07 DOC - Elyza Townsend

5/2/07 FFW Don Marten, Ken Elowic
Steve Tringano

- CMP Owns 3 Sizes of T/L
Larger 2 are used for bulk power
345 system built in 1971. Elec Usage Doubled
Generation & its location → changed.
- CMP, ISO-NE → Identified issues, congested.
Late last Fall - Began Comprehensive Study - 2017
Will not carry the load → will not adequately serve
Maine customers.
Appears to be a significant need.
Now assessing alternatives
Transmission + Non-transmission

Transmission - Assessing a number of potential routes

All of this study work & the work ahead - tremendous effort.

CMP is much smaller - Resources limited

Hired several firms to help us. - Clarko - P.E.,
RLC - Elec Studies
BSGS - Civil
TRC/EP - ENVIR Asses
PA
Palapala
Power Engineers

Schedule: Electrical Studies + Field Work this season

- Prepared Route by Fall.
- ISO-NE Approval - last quarter
- PUL - last quarter
- ENVIR Appl - 2008

9-13-07

Jack Cochran
Larry B + Mary S
Usage Doubled

Typ Notes

Crayon Map - 345/115/ M.P.S. 1971
Load Growth vs. Renewables
Northern Maine

2003 Blackout → New Standards → This June

- Needs Assessment ^{Maine Reliability} June w/ ISO + Study Group
Model System - 2017 (Peak Summer)
Will not carry the load
Significant Needs

- Alternatives Assessment:
Transmission + Non-Transmission
Routes - Elec + Non-electric criteria

• Process; Timeline Forward

Jack

- * Energy Production (Renewables in Maine)
- * Lower Energy Prices for Maine

Low cost energy from N.B. for Maine.
N.B. + Maine export to rest of N.E.

12-21-07

Paolo

Mtg w/

Karen Tilberg Dick Davis
Jan Barnes Jack Cashman
Larry Boris

Needs Assessment - 1971 System - 2017 load
Assessment Findings - June - Significant

T/L + Non-T/L Alternatives

T/L → MAP → 5 North / 3 South

Operational Performance - DAY TO DAY ROBUSTNESS

Longevity - 15 + 20 YRS OUT

Operability -

Loss Savings -

Transfer Capabilities

Wind Interconnect - 800 / 250 / 250

COSTS -

ENVIR + SOCIAL - Vernal Pools / Wetland - Dwellings / R.E.

TO PAC Jan 1th + FURTHER Detailed Study -
Contacting Landowners

NTA - Energy Eff / Conserv / Load Control or Demand Response / Generation
LAGS T/L - Necessary

EE ? Demand Response is Complete

Next - Connection + Combs

Next Couple → 3 months → Completing Studies + Choose what
to put South - Not Black & White.

WPOC Filing - March / April

Mtg Notes: pg 2 of 2

Wind Table of what's in Study to Karen

Wind Task Force - Recent Report . Report
Bob Grace + Ewison

Energy Efficiency Summit Planned
April 3rd

John Kerry - Jan - invite to the NTA
Mtg

Jeff Madore

Meeting on MPRP with DEP
Commissioner Dave Littell and Land & Water Quality Bureau Director Andy Fisk

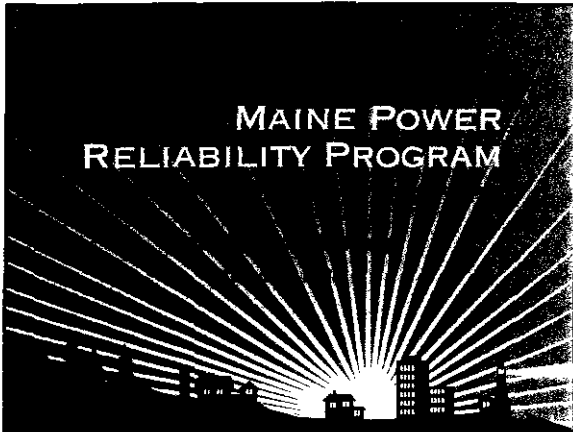
- What has occurred since the last briefing of the Commissioner (needs study, route alternatives, selection of preferred route, NTA analysis, remaining preferred route).
- Scope of Preferred Route project.
- Expected State permitting needs (Site Law and NRPA, and request for water quality certification from MDEP and CZMA consistency determination from SPO).
- Expected timing of project and application filing.
- Stakeholder reach-out process, including NGOs and municipalities, to date.
- Need for seasoned project manager(s) for joint Site Law/NRPA application.
- Role of DEP versus BEP.
- Expected next steps (second pre-application meeting with project manager and key staff).

*Scenic - Road Crossings - Subject ^{to} Disposition
 Compensation for wetlands etc
 Look for our support Sig Wildlife
 Next week or week after - Hearing
 Advance Partial Payment for part of Appl Fee
 to begin review*

Intruder's Meeting

8-4-08

Pg 1 of 5



Bulk Power Transmission System

Carries bulk electricity from generating plants to areas where electricity is needed

345kV backbone was placed in service in 1971 - state of the art and built to last

NRI, 2nd interconnect to Eastern Canada, the latest improvement (2007)

**MAINE POWER
RELIABILITY PROGRAM**

3 Voltages
345 → 1971

Electric Usage - Double

Study Group

- ISO-NE
- CMP
- BHE
- MPS
- NMISA
- PSNH/NU

ISO-New England

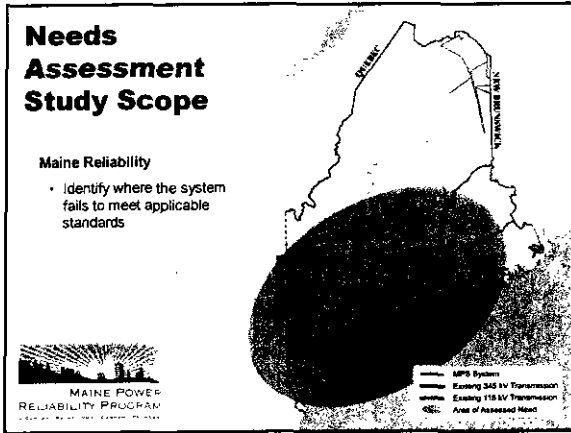
**MAINE POWER
RELIABILITY PROGRAM**

System highly integrated

2003 Blackout - 50 million ^{out}
New + Revised Standards

Fall 2006 - Maine System Formally ID'd as weak and needing study

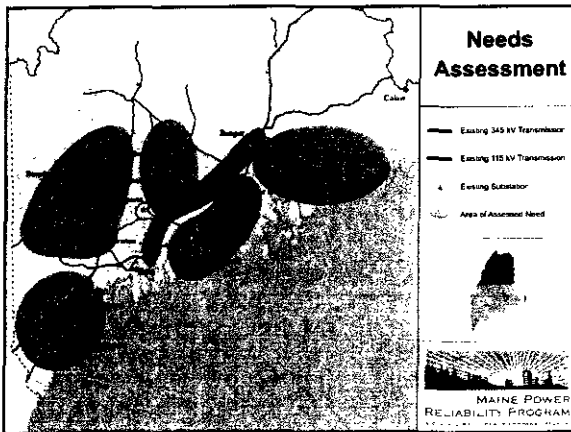
Group Study - Peer Review



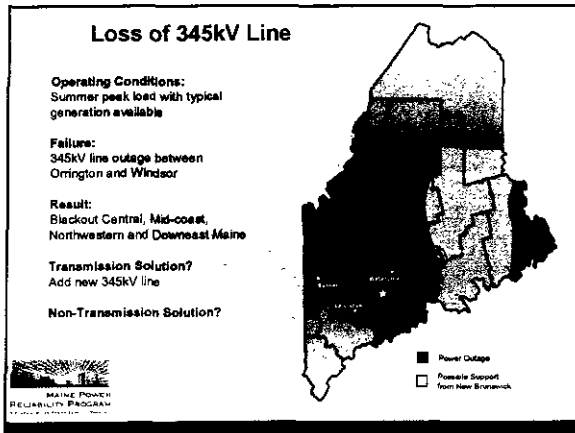
Maine Reliability

RLC Engineering
Modeled System - 2017

Completed June 2007



Number of Weak areas



Recent Events

- Natural gas supply from Maritimes shut down which impacted 1300MW of Maine generation
- Fault on 345-kV electrical facilities in Bangor caused cascading line outages throughout Maine
- Lightning strike on 345kV T/L north of Bangor caused outage of BHE system

We can operate the system reliably today
However - Recent Events

Transmission Alternatives Electrical Assessment

- 5 Northern Alternatives Studied
- 5 Southern Alternatives Studied
- Electrical Performance Evaluation
- Year of Need Analysis
- 250,000 Cases Simulated
- Sensitivity to Wind Power

2012

Back-up to Map of AET

Existing ROW vs new 600'± ROW Studied

Expensive - Different Electrical

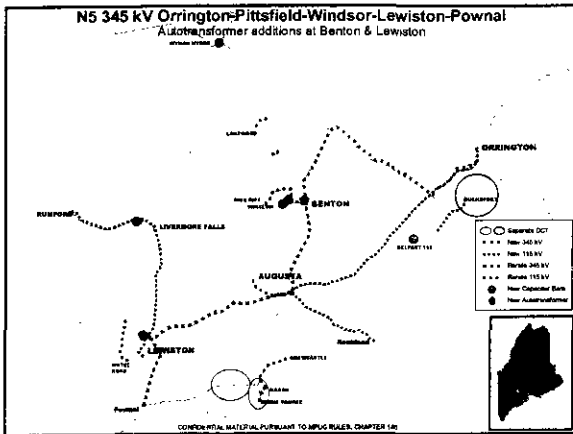
Criteria Evaluated

- Electrical Performance
- Costs
- Environmental Impacts
- Community Impacts
- Real Estate

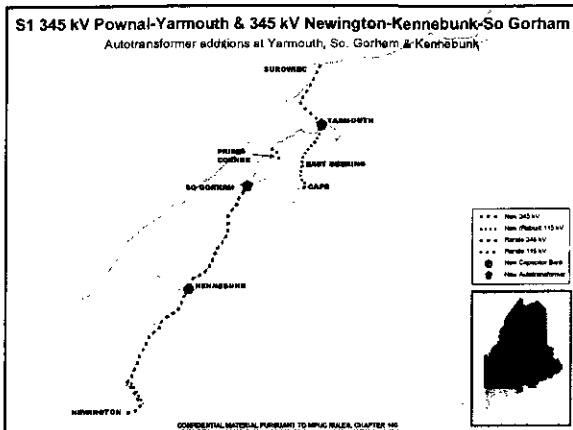
Dominated Decision

No significant slow-stoppers of differentiators

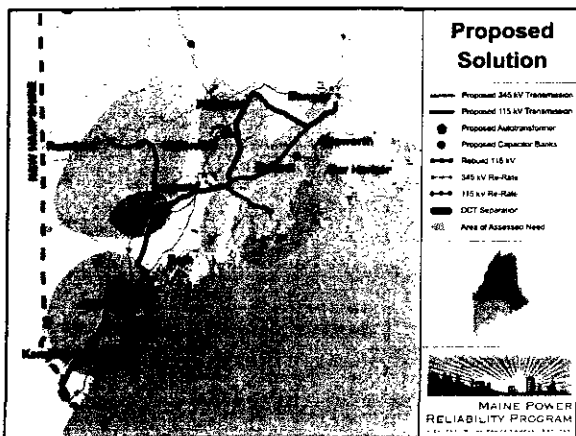
By Hof 5



250 miles new 345 kV
 10 miles rebuild 345 kV
 75 miles new 115 kV
 155 miles rebuild 115 kV



485 miles total construction



Gap between Cumberland
 and So. Gorham

\$1.4 Billion
 Largest Project

I.3.9 - Last Week

July 1st → MAY 09 Approval Decision

3.7
late

Looking Ahead

- ISO-NE Approval - 2008
- MPUC Filing - 2008
 - Transmission & Non-Transmission Combination
- State & Federal Environmental Filings - 2008
- Continued Community Outreach & Stakeholder Briefings

MAINE POWER RELIABILITY PROGRAM

to Main Customers

Reliable Service

That is what MPRP is all about!
