Open Data and the University

Presentation at
Governance and Appeals Committee
of the University of Prince Edward Island Board of Governors

by Peter Rukavina, Hacker in Residence, Robertson Library

September 6, 2016

UPEI UNIVERSITY of Prince Edward ISLAND
ROBERTSON LIBRARY
Hacker in Residence

http://hacker.vre.upei.ca/

Open data is machine-readable data about and from the enterprise, provided in known, well-documented, digital formats, without restriction, to the general public.

An Open Data Case Study
"Where Does PEI's Electricity Come From?"

Windmill by Stephen Downes is licensed under CC BY-NC 2.0

Photo of Richard Brown from Liberal Party of Prince Edward Island

Photo of Ron Estabrooks taken at the open house to officially launch the Hermanville/Clearspring wind development from www.gov.pe.ca.

System Information

		Net Scheduled Interchange				
NB Load	**NB Demand**	**ISO-NE**	**NMISA**	**QUEBEC**	**NOVA SCOTIA**	**PEI**
1331	1361	389	-31	-436	73	122
Note: For actual and scheduled columns, positive values are exports and negative values are imports.						
Transmission Outages						

Jun 21, 2015 11:26:54 Atlantic Time. Times at which values are sampled may vary by as much as 5 minutes.

This page will automatically refresh itself every 5 minutes.

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        <td valign="top"><b>NB Load </b></td>
        <td valign="top"><b>NB Demand </b></td>
        <td valign="top"><b>ISO-NE </b></td>
        <td valign="top"><b>NMISA </b></td>
        <td valign="top"><b>QUEBEC </b></td>
        <td valign="top"><b>NOVA SCOTIA </b></td>
        <td valign="top"><b>PEI </b></td>
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        <td nowrap bgcolor="" align="center">1355</td>
        <td nowrap bgcolor="" align="center">389</td>
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        <td nowrap bgcolor="" align="center">-436</td>
        <td nowrap bgcolor="" align="center">73</td>
        <td nowrap bgcolor="" align="center">122</td>
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soundcloud.com

SOUNDCLOUD Explore Search for artists, bands, tracks, podcasts Sign in or Create account Upload

Hear the world's sounds

Zeds Dead and millions of other artists
share their tracks on SoundCloud

Explore trending music & audio

Zeds Dead
Zeds Dead - Lost You (feat. Twin Shadow & D'Angelo Lacy)
1 year
#Zeds Dead
3:38

SoundCloud uses cookies. By using our services, you're agreeing to our Cookie Policy. We have updated our Privacy Policy, effective as of 10 June 2015. By using our services you're agreeing to the updated policy.

50 BPM
50 MW

Golf at 50BPM by user707748013

122 BPM
122 MW

W&W - Bigfoot (Uriel M Deephouse Remix) by urielm

Have you ever looked at the flow of electricity between New Brunswick and PEI and thought, "Wow, I wonder if I could turn that into music?" Yeah, us either. But Peter Rukavina did. With some technical skill and a few free web services, Peter was able to turn somewhat dull information about inter-province electricity flow into a novel and compelling mashup. (Runs 8:50)

- Peter Rukavina
- Peter's blog post Hear the Energy Flow: Pachube + SoundCloud Mashup
- Peter's electricity mashup (will work in Google Chrome or Safari only)
- Full uncut version of interview with Peter Rukavina
- Peter's annotated bootleg interview on SoundCloud
- SoundCloud track "Stand still" by weathercast

Clip of audio from CBC Spark interview with Peter Rukavina by Nora Young, recorded June 19, 2011.

Department Directory
Hermanville/Clearspring Wind Development
Wind Energy
North Cape Wind Farm
Eastern Kings Wind Farm Project
PEI Wind-Hydrogen Village
PEI Energy Accord
Renewable Energy
Oil and Gas Exploration

Energy

HOME /

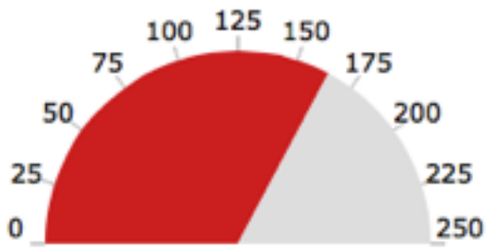
SHARE A A A

Prince Edward Island: World Leader in Wind Power Development

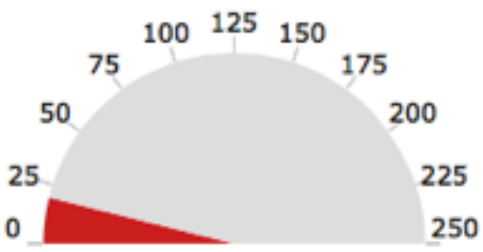
Since Prince Edward Island introduced its Island Wind Energy strategy in 2008, the province has become a world leader in wind power development.

PEI has a total peak electrical load of over 240 MW and the Island's seven wind facilities have a combined generating capacity of 203 MW

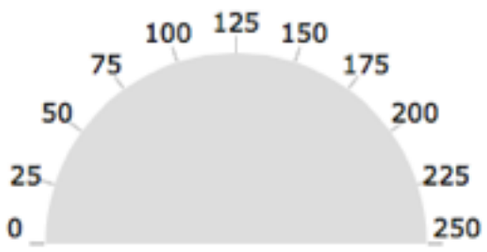
The five gauges presented below represent the total PEI electrical load, total on-Island generation (both wind and fossil fueled), and the breakdown of how much wind energy is used locally and how much is exported off-Island.



Total On-Island Load



Total On-Island Wind Generated
11.68% of full load



Total On-Island Fossil Fueled Generation
0% of full load

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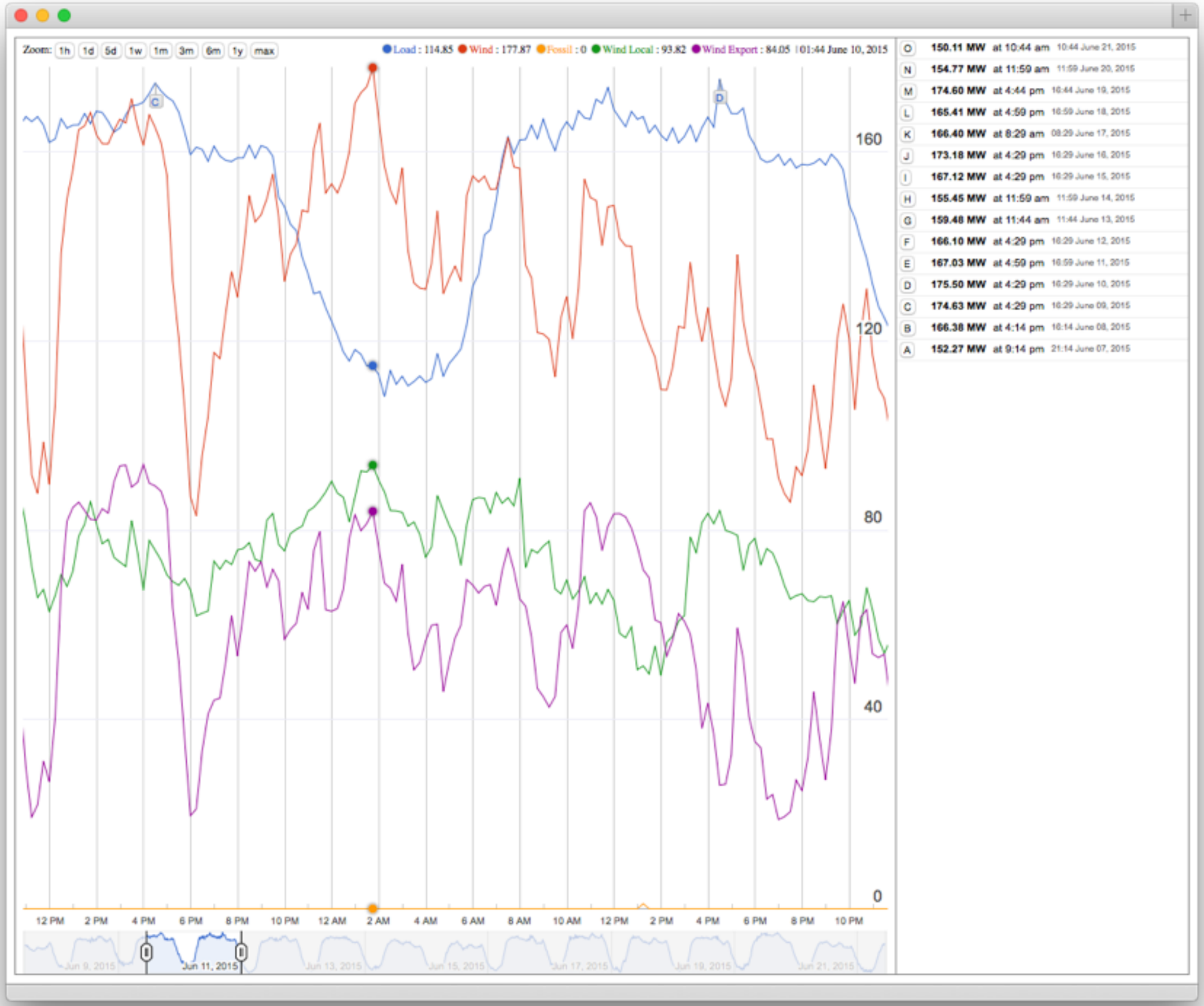
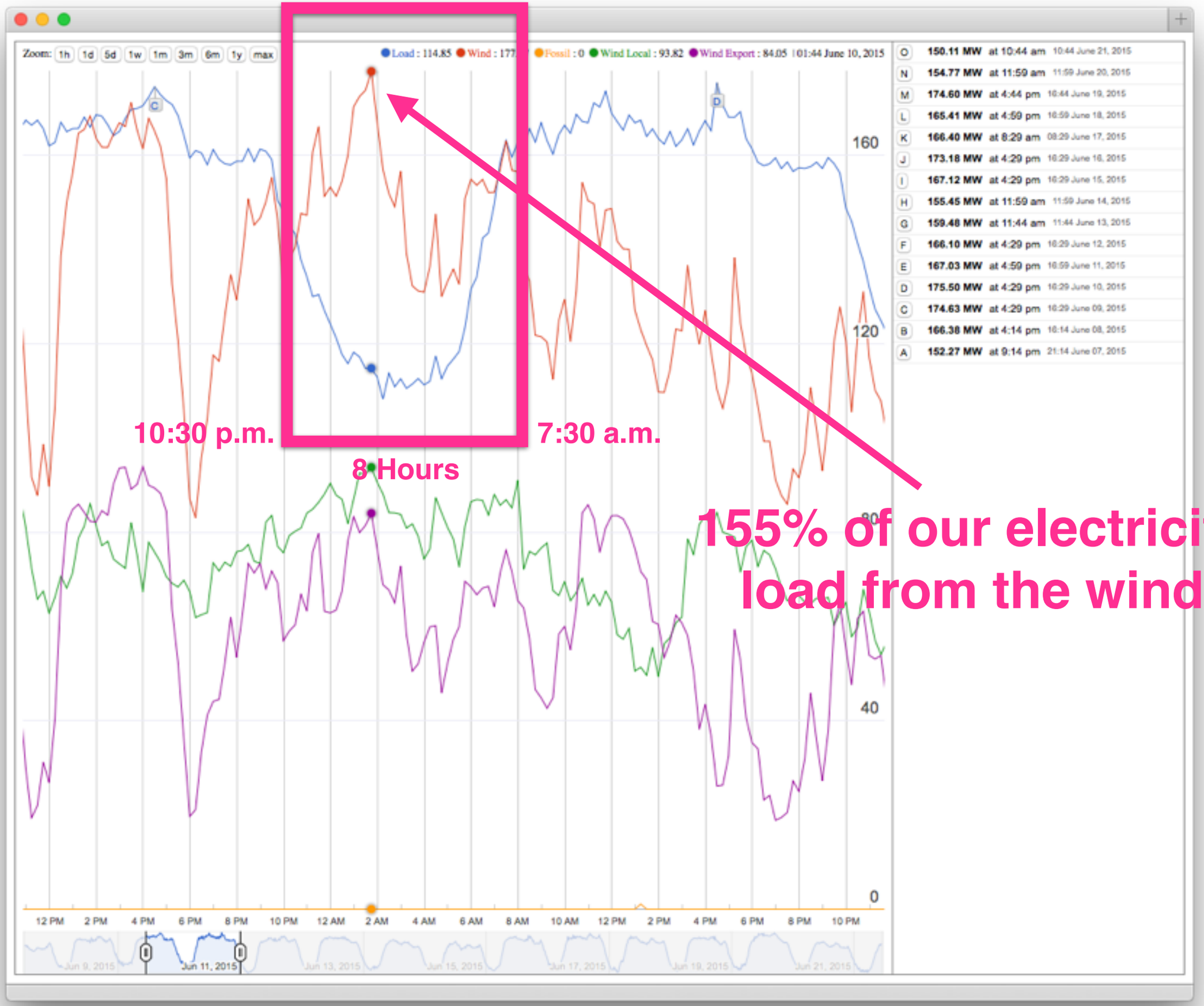
        "updateDate":1437139741,
        "error":0
    }
]
```

pei @energy (Rei

updatetime	on-island-load	on-island-wind	on-island-fossil
2015-07-17 10:29:01	164.20	17.63	0.00
2015-07-17 10:14:01	163.09	19.05	0.00
2015-07-17 09:59:02	162.71	15.54	0.00
2015-07-17 09:44:02	162.33	12.79	0.00
2015-07-17 09:29:02	160.89	16.56	0.00
2015-07-17 09:14:02	160.16	17.95	0.00
2015-07-17 08:59:01	158.73	17.50	0.00
2015-07-17 08:44:01	156.78	15.17	0.00
2015-07-17 08:29:02	155.19	17.12	0.00
2015-07-17 08:14:02	151.82	11.82	0.00
2015-07-17 07:59:02	149.76	7.67	0.00
2015-07-17 07:44:01	146.21	9.17	0.00
2015-07-17 07:29:01	143.10	10.81	0.00
2015-07-17 07:14:02	139.31	13.76	0.00
2015-07-17 06:59:01	135.25	14.31	0.00
2015-07-17 06:44:01	129.52	12.55	0.00
2015-07-17 06:29:02	124.31	14.91	0.00


Zoom: 1h 1d 5d 1w 1m 3m 6m 1y max
Load : 114.85 Wind : 177.87 Fossil : 0 Wind Local : 93.82 Wind Export : 84.05 | 01:44 June 10, 2015
C
D
160
120
80
40
0
12 PM 2 PM 4 PM 6 PM 8 PM 10 PM 12 AM 2 AM 4 AM 6 AM 8 AM 10 AM 12 PM 2 PM 4 PM 6 PM 8 PM 10 PM
Jun 9, 2015
Jun 11, 2015
Jun 13, 2015
Jun 15, 2015
Jun 17, 2015
Jun 19, 2015
Jun 21, 2015
O 150.11 MW at 10:44 am 10:44 June 21, 2015
N 154.77 MW at 11:59 am 11:59 June 20, 2015
M 174.60 MW at 4:44 pm 16:44 June 19, 2015
L 165.41 MW at 4:59 pm 16:59 June 18, 2015
K 166.40 MW at 8:29 am 08:29 June 17, 2015
J 173.18 MW at 4:29 pm 16:29 June 16, 2015
I 167.12 MW at 4:29 pm 16:29 June 15, 2015
H 155.45 MW at 11:59 am 11:59 June 14, 2015
G 159.48 MW at 11:44 am 11:44 June 13, 2015
F 166.10 MW at 4:29 pm 16:29 June 12, 2015
E 167.03 MW at 4:59 pm 16:59 June 11, 2015
D 175.50 MW at 4:29 pm 16:29 June 10, 2015
C 174.63 MW at 4:29 pm 16:29 June 09, 2015
B 166.38 MW at 4:14 pm 16:14 June 08, 2015
A 152.27 MW at 9:14 pm 21:14 June 07, 2015


Zoom: 1h 1d 5d 1w 1m 3m 6m 1y max
Load : 114.85 Wind : 177
Fossil : 0 Wind Local : 93.82 Wind Export : 84.05 01:44 June 10, 2015
O 150.11 MW at 10:44 am 10:44 June 21, 2015
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160
120
80
40
0
12 PM 2 PM 4 PM 6 PM 8 PM 10 PM 12 AM 2 AM 4 AM 6 AM 8 AM 10 AM 12 PM 2 PM 4 PM 6 PM 8 PM 10 PM
Jun 9, 2015 Jun 11, 2015 Jun 13, 2015 Jun 15, 2015 Jun 17, 2015 Jun 19, 2015 Jun 21, 2015
10:30 p.m.
7:30 a.m.
8 Hours
155% of our electricity load from the wind

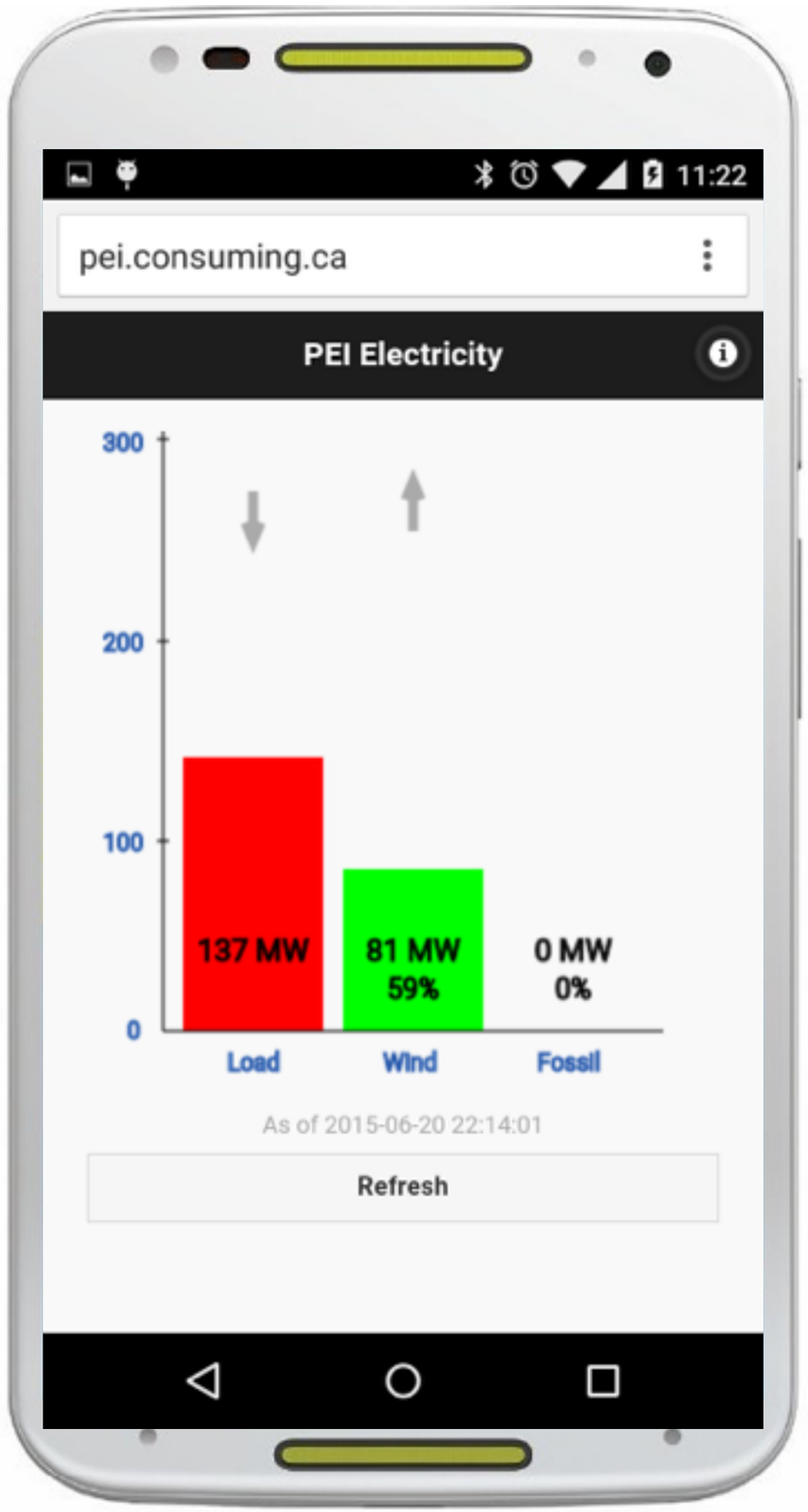
PRINCE EDWARD ISLAND
ENERGY CORPORATION

ANNUAL REPORT
2012/13

Prince Edward Island Energy Corporation
30th Annual Report
For the Year Ended
March 31, 2013

Executive Summary

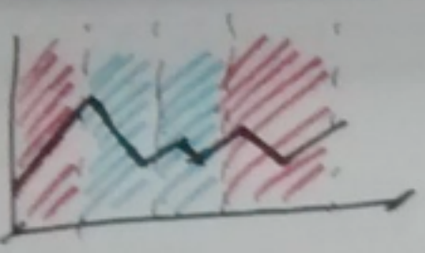
The Prince Edward Island Energy Corporation is a provincial Crown corporation whose form and function is dictated by the (PEI) *Energy Corporation Act*. Through ownership of wind farms at North Cape (10.56 MW) and East Point (30 MW), the Corporation supplies approximately 121,500,000 kilowatt-hours of renewable electricity to Islanders. The Corporation provides an advisory service to government on energy matters that result in the formulation of policy, programs and legislation. Within its mandate, the Corporation also provides financing and support to other energy projects in PEI.

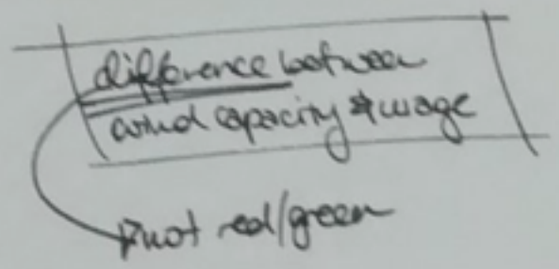

11:22
pei.consuming.ca
PEI Electricity
300
200
100
0
137 MW
81 MW
59%
0 MW
0%
Load
Wind
Fossil
As of 2015-06-20 22:14:01
Refresh

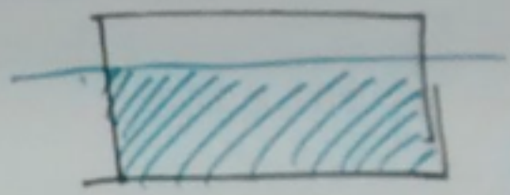
Imagination

additional displays?

surfing the curve of the wind

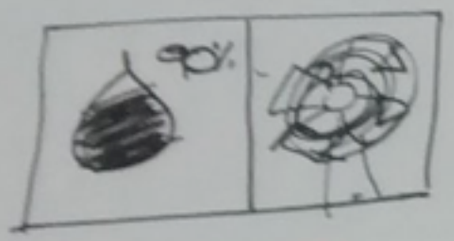






TIME
WEATHER
NEWS?
ENERGY PROD. BY WIND

what is the sweet spot?
(pareto goals?



time & level of complexity to read to look

overview vs. details?

effort?

timing & reduction

household vs business?

doc. collect meter

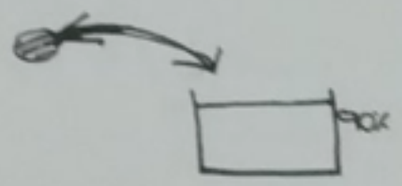
daily trigg

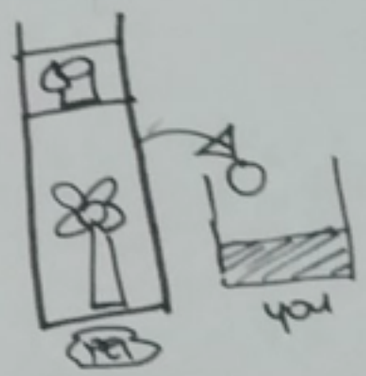
when to do

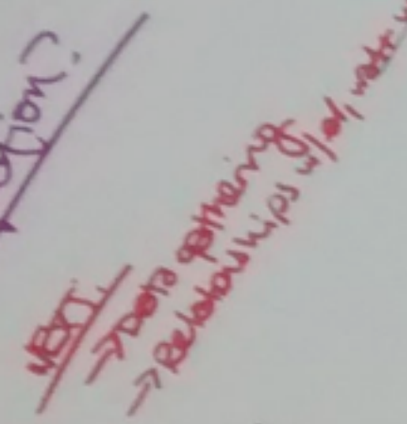
what works?

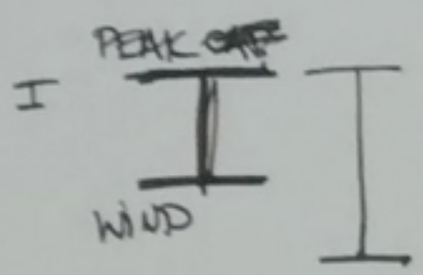
Span (qua

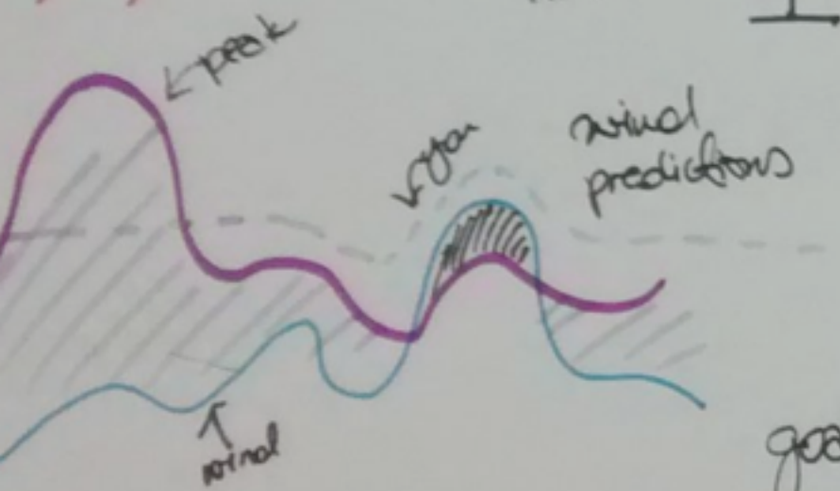
6 pm that

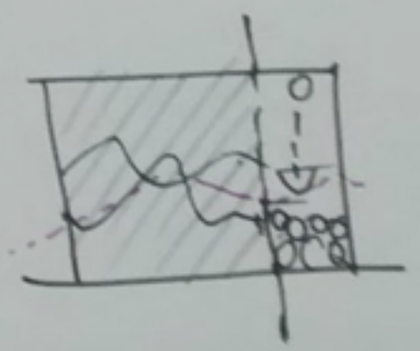


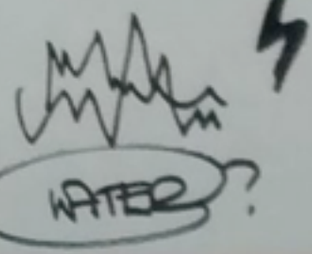












goal: shift peak to 0?
reduce peak?
reduce overall consumption?

create incentive vs. help function

http://innovis.cpsc.ucalgary.ca/

"I have become slightly obsessed by your energy graph and am very grateful that you have found a way to record the load and wind power generated in PEI. Do you by any chance have a spread sheet of these values? I am looking at using storage to balance wind fluctuations and was hoping to try and using the real load and wind data to accomplish that."

Policy Leadership

Logistical Leadership

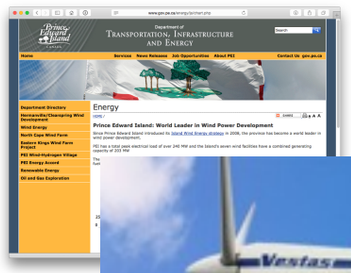
Partner Cooperation

Active Consumers

Open data is machine-readable data about and from the enterprise, provided in known, well-documented, digital formats, without restriction, to the general public.

Policy Leadership

Logistical Leadership



MARITIME ELECTRIC
A FORTIS COMPANY

Partner Cooperation

Active Consumers

Policy Leadership

Logistical Leadership

Partner Cooperation

Active Consumers

Open data is predicated on a belief that broadly and enthusiastically sharing data about and from the enterprise is both good public policy and good for the enterprise itself.

You probably don't believe that.

The institution certainly doesn't believe that.

And that's your open data challenge in a nutshell.

Mission

Policies and Priorities

Parking Services

Maintenance Division

Security Division

Room Booking

Sustainability

Staff

Services

Facilities Management

Facilities Management serves UPEI through the planning, design, construction, operation, protection, and maintenance of its physical facilities.

The department provides direction and support to senior administration in planning deferred maintenance, enhancement of buildings, and new capital investment in facilities.

Additionally, Facilities Management maintains a safe and inviting campus for all students, faculty, staff, and visitors through its Security Division; and, information about parking, emergency contacts, and campus cleaning.

Submit a Maintenance Request or Work Order

Live in UPEI Residence? Submit a Residence Work Order

Page Today

UPEI University of Prince Edward Island | FACILITIES MANAGEMENT

Google™ Custom Search Search

Mission

Main Navigation

- Home
- NEW!
  - School of Nursing / FNS Building Webcam
- Policies and Procedures
- Client Reception
- Directory
- Room Booking
- Maintenance Services
- Campus Closures or Delays
- Security Services
  - Emergencies
  - Forms & Policies
  - Lost and Found
  - Parking
  - Storm Procedures
- Campus Buildings & Floor Plans
- [illegible] Map
- Service Standards
- Campus Aerial Photos

The mission of the Facilities Management Department is to serve the University community through the planning, design, construction, operation, protection, and maintenance of its physical facilities, and to provide direction and support to senior administration in planning deferred maintenance, enhancement of buildings, and new capital investment in facilities.

These services support and enhance the academic, research, and administrative environment of the University.

UPEI Campus July 2006: Aerial Photo

Page in 2011

UPEI UNIVERSITY of Prince Edward ISLAND | FACILITIES MANAGEMENT

Google™ Custom Search Search

Campus Buildings & Floor Plans

Main Navigation

- Home
- NEW!
  - School of Nursing / FNS Building Webcam
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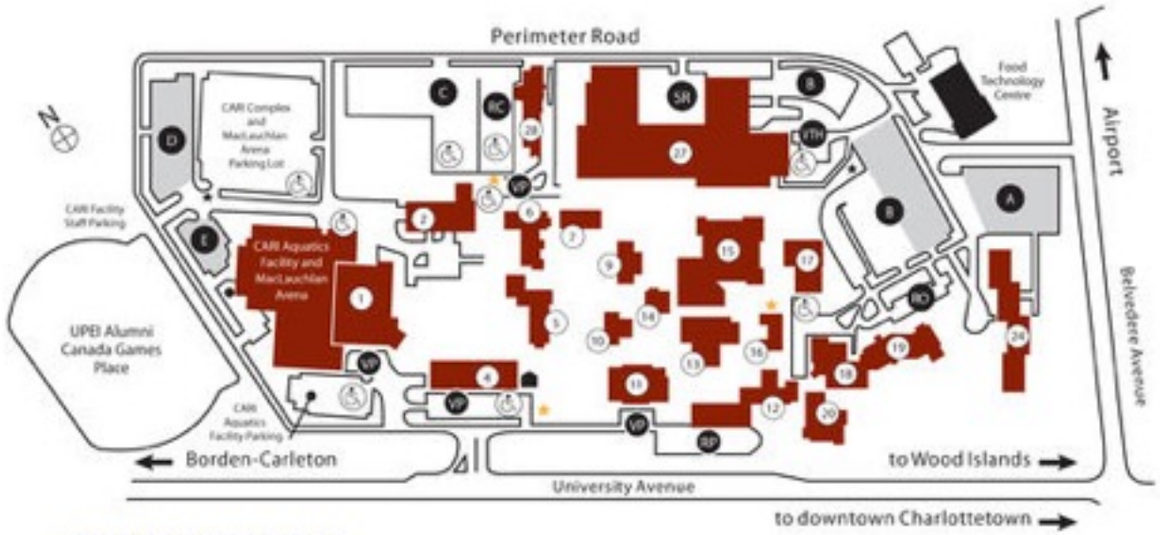
- Campus Aerial Photos

UPEI UNIVERSITY of Prince Edward ISLAND

550 University Avenue
Charlottetown, PE
Canada C1A 4P3
upei.ca



CAMPUS BUILDINGS

1. Chi-Wan Young Sports Centre (SC)
2. Central Utility Building
4. W.A. Murphy Student Centre
5. Main Building (M)
6. Steel Building (ST)
7. Dalton Hall (DA)
9. Memorial Hall (ME)
10. Cass Science Hall (CASS)
11. Kelley Memorial Building (K)
12. Don and Marion McDougall Hall (MCD)
13. Duffy Science Centre (D)
14. Chaplaincy Centre
15. Robertson Library (RL)
16. Campus Kids Child Care Centre
17. K.C. Irving Chemistry Centre (KCI)
18. Wanda Wyatt Dining Hall (DH)
19. Bill and Denise Andrew Hall (Residence)
20. Bernardine Hall (Residence)
24. Blanchard Hall (Residence)
27. Atlantic Veterinary College (AVC)
28. Regis and Joan Duffy Research Centre

Reserved for Future Expansion– numbers 3, 8, 21, 22, 23, 25, 26, 29

PARKING

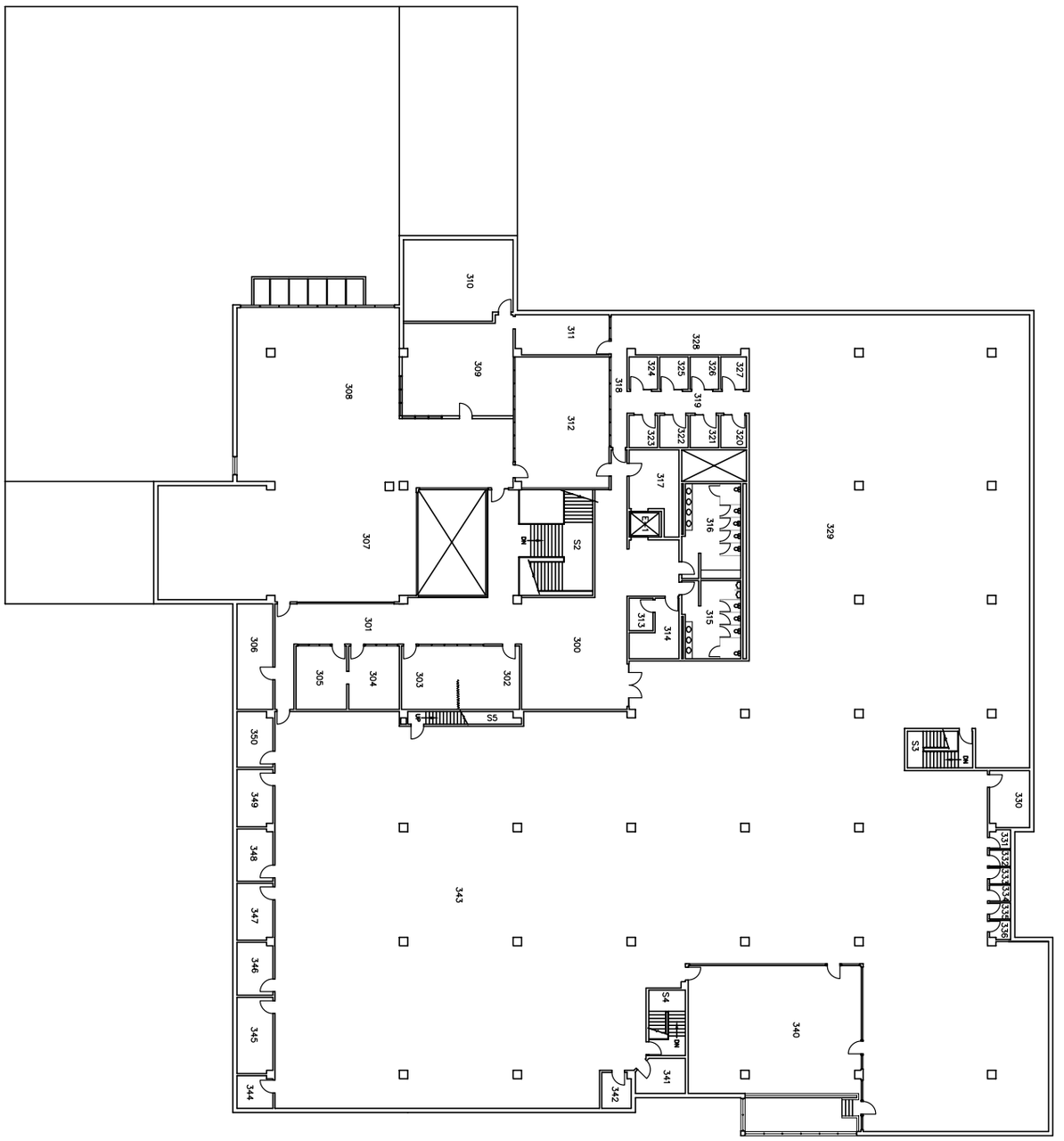
- A — General parking & overnight parking during winter months
- B — General & Designated parking
- C — Designated parking
- D — General parking
- E — General parking
- General parking areas

- EMERGENCY CALL STATION
- VTH — Veterinary Teaching Hospital client parking
- Accessible parking
- RD — Residences Only
- WEATHER SHELTER
- VP — Visitor metered parking
- RP — Reserved parking
- SR — Shipping and Receiving
- RC — Research Centre parking

upei.ca

Revised 07/09

- CARI Aquatics Facility & MacLauchlan Arena
- Chi-Wan Young Sports Centre
- Central Utility Building
- W.A. Murphy Student Centre
- Main Building
- Steel Building
- Dalton Hall
- Memorial Hall
- Cass Science Hall
- Kelley Memorial Building
- Don and Marion McDougall Hall
- Duffy Science Centre
- Chaplaincy Centre
- Robertson Library
- Campus Kids Child Care Centre
- K.C. Irving Chemistry Centre
- Wanda Wyatt Dining Hall
- Bill and Denise Andrew Hall
- Bernardine Hall
- Blanchard Hall
- Atlantic Veterinary College
- Regis and Joan Duffy Research Centre
- PEI Food Technology Centre



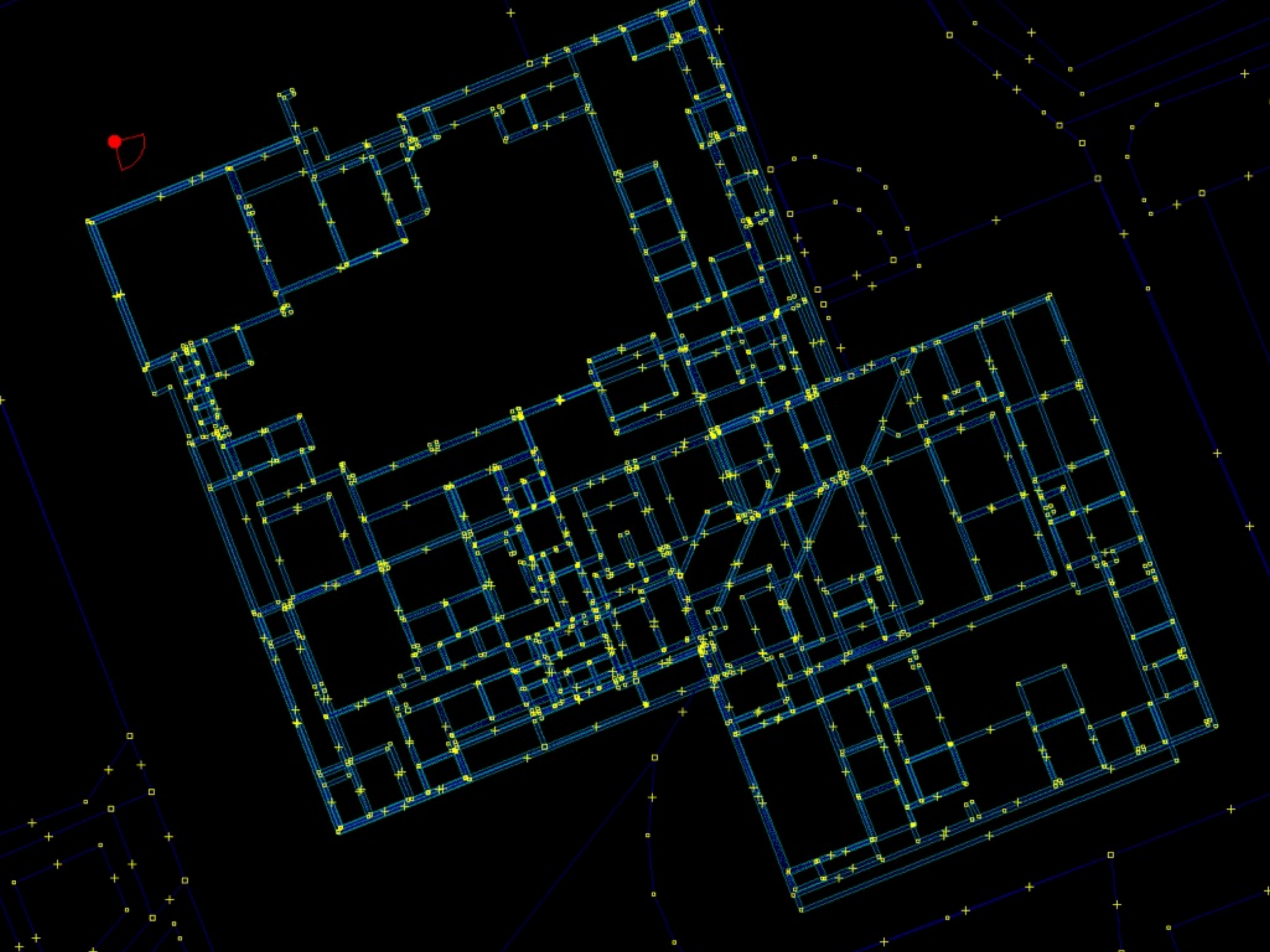
University of Prince Edward Island
550 University Avenue
Charlottetown, PE
C1A 4P3
www.upei.ca

BUILDING: ROBERTSON LIBRARY

LEVEL: 3

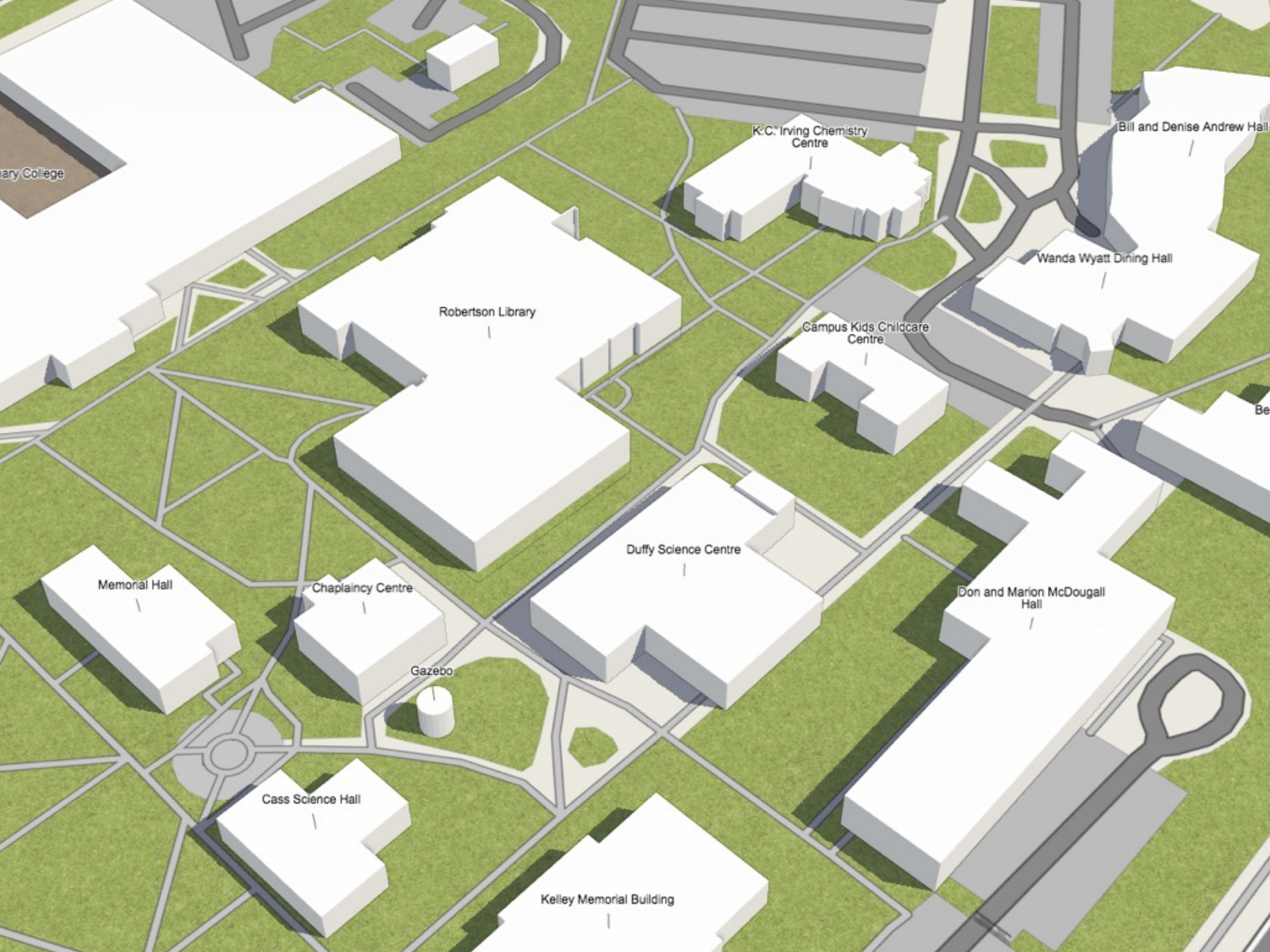
DATE: SEPT. 2005

SCALE: 1/32" = 1'-0"

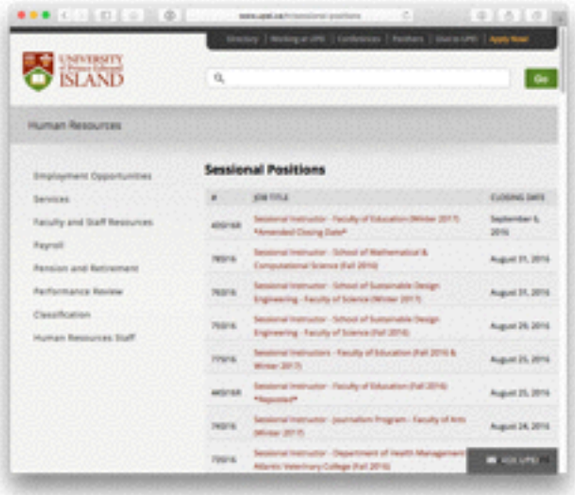


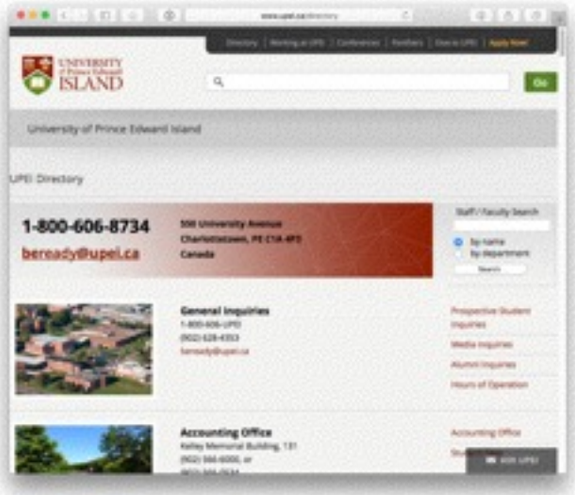
Memorial Hall
Baker Plaza
Cass Science Hall
Chaplaincy Centre
Gazebo
Kelley Memorial Building
Service Corridor
Visitor Parking
Duffy Science Centre
Robertson Library
Atlantic Veterinary College
Paddock
Confederation Trail
University of PEI Ring Road
Reserved Parking
Don and Marion McDougall Hall
Campus Kids Childcare Centre
K.C. Irving Chemistry Centre
Teaching Hospital Client Parking
Bio | Food | Tech Parking
Wanda Wyatt Dining Hall
Bernardine Hall
Bill and Denise Andrew Hall
General and Designated
Residence Only
General and Overnight
Bio | Food | Tech
Blanchard Hall
University Avenue
Dawson Court
Belvedere Ave

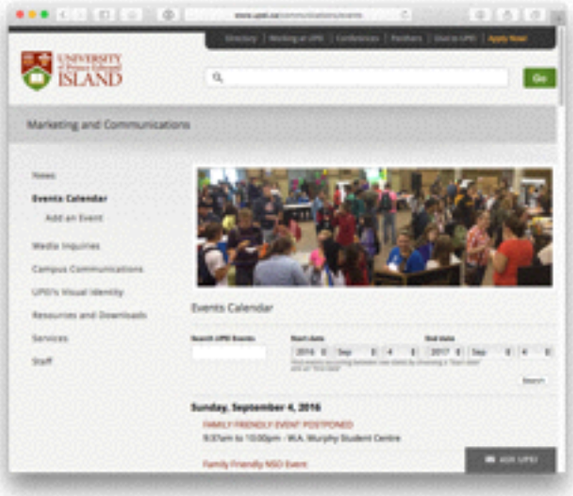
UNIVERSITY AVE
UNIVERSITY AVE
University of PEI Ring Rd
University of PEI Ring Rd
Service Corridor
Service Corridor
Service Corridor

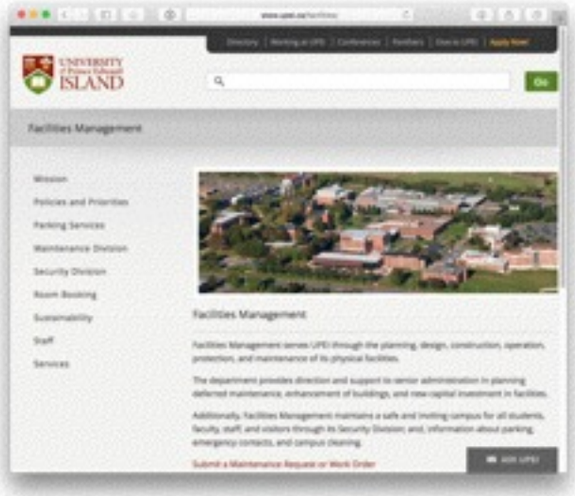

ary College
K.C. Irving Chemistry Centre
Bill and Denise Andrew Hall
Wanda Wyatt Dining Hall
Robertson Library
Campus Kids Childcare Centre
Duffy Science Centre
Memorial Hall
Chaplaincy Centre
Gazebo
Cass Science Hall
Kelley Memorial Building
Don and Marion McDougall Hall

Consider that, 1000x over…









open data = good for the enterprise

Open data is predicated on a belief that broadly and enthusiastically sharing data about and from the enterprise is both good public policy and good for the enterprise itself.

To get there…

Are we prepared to <u>believe</u> this is true?

open data = good for the enterprise

How will we communicate this within and beyond the institution?

open data = good for the enterprise

How will we build this into the DNA of the institution?

open data = good for the enterprise

Open data is predicated on a belief that broadly and enthusiastically sharing data about and from the enterprise is both good public policy and good for the enterprise itself.

Open data is machine-readable data about and from the enterprise, provided in known, well-documented, digital formats, without restriction, to the general public.

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