

**LEADING EDGE
(LE)**

1 **REFERENCE: Yukon Energy System Sales and Generation; P 2-2, L 13**

2

3 **QUESTION:**

4

5 a) Please describe the forecasting methodology that was used for the 2008 and
6 2009 retail sales forecasts.

7

8 **ANSWER:**

9

10 **(a)**

11

12 YEC uses customer data for the prior 3 years in order to determine the monthly average
13 use per customer. This average use per customer is multiplied by the forecast number of
14 customers to derive forecast sales by month by rate class.

15

16 For each community, customer counts and usage from the most recent year are
17 reviewed in order to determine whether the number of residential or general service
18 customers, or usage, was impacted (or is forecast to be impacted) by a major project.

19

20 Based on consultations with each YEC community Senior Serviceman and Distribution
21 Technician, provisions are made regarding the timing of new customer connections and
22 the forecast additional load that they will represent. These new customers are added to
23 the average use per customer analysis to arrive at the business plan forecast.

24

25 To achieve more accurate monthly average usage forecasts for General Service
26 customers in Faro and Mayo, the larger loads of Anvil Range Mine and Alexco Resource
27 Corp. (Alexco) are removed before determining the monthly average use per customer.
28 These larger accounts are then forecast based on consultation with each customer
29 regarding upcoming season events. For example, the 2009 General Service forecast
30 includes 2 GWh of sales to Alexco for a bulk sampling program (based on discussions
31 with Alexco), while Anvil Range water treatment is forecast to be average this year
32 subject to whether there is a larger than average snow pack or a very rainy
33 spring/summer.

34

35 Streetlights and Sentinel Lights are assumed to be the same levels as the prior year
36 unless YEC is informed in advance that a municipality is engaging in a subdivision

- 1 expansion program during the upcoming year. YEC was not advised of any additions at
- 2 the time of preparation of our 2009 forecast.

1 **REFERENCE: Tab 2 Yukon Energy System Sales and Generation;**
2 **P 2-9, L 23**
3

4 **QUESTION:**
5

6 a) Please indicate on how many days in 2009 peaking diesel is forecasted to be
7 required.
8

9 **ANSWER:**
10

11 **(a)**
12

13 Yukon Energy does not have daily peaking diesel forecasts; however, hourly forecasts
14 based on monthly load duration curves are provided in YECL-YEC-1-23(b).

1 **REFERENCE: Tab 2 Yukon Energy System Sales Generation; P 2-11, L 18**
2 **and L 21**

3

4 **QUESTION:**

5

6 a) Please explain in detail the range of summer (June through August) capacity and
7 energy loads, the hydro capacity and energy available, and the surplus capacity
8 and energy available to serve secondary sales.

9

10 b) How much load following from day to night can and is being carried out by the
11 Whitehorse Rapids hydro facility during winter season?

12

13 **ANSWER:**

14

15 **(a)**

16

17 Please see the monthly load duration curves provided in response to YECL-YEC-1-50
18 (a) to (c).

19

20 **(b)**

21

22 During the wintertime the Whitehorse Rapids Hydro facility output is varied from day to
23 night for load following; the maximum amount varied is as much as 7 MW from peak
24 daytime periods to low load nighttime periods.

1 **REFERENCE: Tab 2 Yukon Energy System Sales and Generation; P 2-12,**
2 **L 25**

3

4 **QUESTION:**

5

6 a) Are the diesel generation efficiencies specified before or after auxiliary and
7 station service loads (including step-up transformers)?

8

9 **ANSWER:**

10

11 **(a)**

12

13 Diesel generator efficiencies used are gross efficiencies as measured at the generator
14 output leads. They do reflect generator losses and any parasitic losses for devices that
15 are mechanically directly connected to the engine. They do not reflect any electrical
16 station service losses or transformer losses.

1 **REFERENCE: Tab 2 Yukon Energy System Sales Generation; Introduction;**
2 **P 2-13, L 6**
3

4 **PREAMBLE:**
5

6 In this application Yukon Energy describes the need, starting in the test years, for diesel
7 generation to meet peak loads during very cold weather (P 2-11 and elsewhere), and the
8 need for higher residential runoff rates to discourage the installation of electric
9 baseboard heating (Introduction to the Application P 10-11 and elsewhere) and that
10 Yukon Energy will be spending \$15.8 million on feasibility studies and planning for new
11 renewable energy supplies (page 5-20). Conspicuous by their absence in any of these
12 discussions and financial requests are descriptions of any plans to manage customers to
13 discourage the installation of electric baseboard heaters.
14

15 **QUESTION:**
16

- 17 a) Please describe, for all consumer classes, the energy efficiency programs that
18 Yukon Energy has studied and provide copies of these studies.
19

20 **ANSWER:**
21

22 **(a)**
23

24 Yukon Energy has not carried out any material studies related to energy efficiency
25 programs or DSM programs. Energy efficiency programs are most effective when
26 established with a sufficient public profile and coordinated across fuels and across
27 customers in Yukon. This coordination role is currently undertaken by Energy Solutions
28 Centre (ESC) as a department of government.
29

30 The link below is EMR's compilation of relevant Yukon Government programs.

31 <http://www.gov.yk.ca/energy/>
32

33 Yukon Housing Corporation also administers the EnerGuide for New Houses, or
34 EcoEnergy programs (which appears to only be applicable if the houses are electric
35 heat). See also response to UCG-YEC-1-59(c).

- 1 Yukon Energy continues to work cooperatively with ESC on these issues.
- 2
- 3 Further, it is noted that energy efficiency and DSM activities focus on end-uses of
- 4 electricity. Yukon Energy does not primarily serve end users as these customers are
- 5 primarily served by YECL.
- 6
- 7 Please see also response to UCG-YEC-1-20 for more detailed discussion on DSM.

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2

3 **PREAMBLE:**

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6 generation to meet peak loads during very cold weather (P 2-11 and elsewhere), and the
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8 baseboard heating (Introduction to the Application P 10-11 and elsewhere) and that
9 Yukon Energy will be spending \$15.8 million on feasibility studies and planning for new
10 renewable energy supplies (page 5-20). Conspicuous by their absence in any of these
11 discussions and financial requests are descriptions of any plans to manage customers to
12 discourage the installation of electric baseboard heaters.

13

14 **QUESTION:**

15

16 a) Please describe, for all consumer classes, the peak load shaving programs that
17 Yukon Energy has studied and provide copies of these studies.

18

19 **ANSWER:**

20

21 **(a)**

22

23 Yukon Energy developed a peak shaving component of the new Rate Schedule 39 for
24 major industrial customers (See Application, Tab 4, Appendix 4.1, Rate Schedule 39).

25

26 Please see response to LE-YEC-1-20. Yukon Energy has not undertaken any material
27 studies related to energy efficiency programs, including peak load shaving programs.

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2

3 **PREAMBLE:**

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6 generation to meet peak loads during very cold weather (P 2-11 and elsewhere), and the
7 need for higher residential runoff rates to discourage the installation of electric
8 baseboard heating (Introduction to the Application P 10-11 and elsewhere) and that
9 Yukon Energy will be spending \$15.8 million on feasibility studies and planning for new
10 renewable energy supplies (page 5-20). Conspicuous by their absence in any of these
11 discussions and financial requests are descriptions of any plans to manage customers to
12 discourage the installation of electric baseboard heaters.

13

14 **QUESTION:**

15

16 a) Please describe the consumer and contractor awareness and education
17 programs that Yukon Energy has undertaken to inform them about the negative
18 impacts of baseboard electric heating.

19

20 **ANSWER:**

21

22 **(a)**

23

24 Please see response to LE-YEC-1-20. These activities would be undertaken by ESC.

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2

3 **PREAMBLE:**

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6 generation to meet peak loads during very cold weather (P 2-11 and elsewhere), and the
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8 baseboard heating (Introduction to the Application P 10-11 and elsewhere) and that
9 Yukon Energy will be spending \$15.8 million on feasibility studies and planning for new
10 renewable energy supplies (page 5-20). Conspicuous by their absence in any of these
11 discussions and financial requests are descriptions of any plans to manage customers to
12 discourage the installation of electric baseboard heaters.

13

14 **QUESTION:**

15

16 a) Please describe the support programs that Yukon Energy has undertaken to
17 assist the consumers (residential and commercial) who wish to be rid of
18 baseboard or other electric heating to install non-electric heating systems.

19

20 **ANSWER:**

21

22 **(a)**

23

24 Please see response to LE-YEC-1-20.

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2

3 **PREAMBLE:**

4

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6 generation to meet peak loads during very cold weather (P 2-11 and elsewhere), and the
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8 baseboard heating (Introduction to the Application P 10-11 and elsewhere) and that
9 Yukon Energy will be spending \$15.8 million on feasibility studies and planning for new
10 renewable energy supplies (page 5-20). Conspicuous by their absence in any of these
11 discussions and financial requests are descriptions of any plans to manage customers to
12 discourage the installation of electric baseboard heaters.

13

14 **QUESTION:**

15

16 a) If Yukon Energy has not done some or all of the above programs please provide
17 a detailed cost justification for each program not undertaken. Please provide any
18 studies performed in support of Yukon Energy's decisions.

19

20 **ANSWER:**

21

22 **(a)**

23

24 Please see response to LE-YEC-1-20. The cost analysis described has not been
25 undertaken and cannot be provided.

1 **REFERENCE: Yukon Energy System Sales Generation**

2

3 **PREAMBLE:**

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6 generation to meet peak loads during very cold weather (P 2-11 and elsewhere), and the
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8 baseboard heating (Introduction to the Application P 10-11 and elsewhere) and that
9 Yukon Energy will be spending \$15.8 million on feasibility studies and planning for new
10 renewable energy supplies (page 5-20). Conspicuous by their absence in any of these
11 discussions and financial requests are descriptions of any plans to manage customers to
12 discourage the installation of electric baseboard heaters.

13

14 **QUESTION:**

15

16 a) What energy efficiency projects and what off-electric heat projects does Yukon
17 Energy have planned for its facilities?

18

19 **ANSWER:**

20

21 **(a)**

22

23 YEC uses electric heat in its facilities, such as space heating for diesel generating
24 stations, only when it is available from surplus hydro. Yukon Energy also expects that by
25 2009 it will complete a substantial program of turbine performance testing on Whitehorse
26 and Aishihik Hydro units. Please see YUB-YEC-1-38(b).

1 **REFERENCE: Tab 3 Revenue Requirement; P 3-7, Table 3.4; and P 3-12**

2

3 **QUESTION:**

4

5 a) Please provide the organization chart in effect at the start of 2005 and the
6 number of full time equivalents (FTEs) in each position. Please provide an
7 organization chart (and FTEs in each position) that will be in effect for 2009.
8 Please provide a detailed substantiation for each FTE added since 2005.

9

10 **ANSWER:**

11

12 **(a)**

13

14 For the organizational chart in effect for 2009 please see Attachment 1 to this response.
15 The organizational chart for 2005 is provided as attachment 2 to this response.

16

17 The employee complement history from 2005 to 2009 is as noted in the table below:

**Yukon Energy Corporation
2008/09 GRA
Employee Complement History**

| | GRA 2005 | Actual 2005 | Actual 2006 | Actual 2007 | GRA 2008 | GRA 2009 |
|---------------------------------------|---------------------|------------------------|------------------------|------------------------|---------------------|---------------------|
| Perm & Term | | | | | | |
| President | 2.00 | 2.00 | 2.00 | 3.00 | 3.00 | 3.00 |
| Communications | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| HR & IT | 6.00 | 6.00 | 6.00 | 6.00 | 7.00 | 7.00 |
| Res Plan & Reg. Affairs | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Finance, Billing & Purchasing | 10.60 | 11.60 | 11.60 | 11.60 | 12.80 | 12.80 |
| Operations | 32.00 | 33.00 | 37.00 | 37.00 | 38.00 | 38.00 |
| Engineering Services | 13.00 | 13.00 | 13.33 | 14.00 | 12.67 | 12.00 |
| Health, Safety & Environ | 1.00 | 1.00 | 1.00 | 3.00 | 3.00 | 3.00 |
| | 66.60 | 68.60 | 72.93 | 76.60 | 78.47 | 77.80 |
| Casual & Temporary | | | | | | |
| President | - | - | - | - | - | - |
| Communications | - | - | - | - | - | - |
| HR & It | - | 0.06 | 0.01 | - | - | - |
| Res Plan & Reg. Affairs | - | 0.08 | - | - | - | - |
| Finance, Billing & Purchasing | 0.11 | 0.04 | 0.10 | 0.24 | 0.22 | 0.22 |
| Operations | 1.28 | 1.82 | 2.43 | 1.60 | 2.20 | 2.10 |
| Engineering Services | 0.23 | 0.21 | 0.25 | - | - | - |
| Health, Safety & Environ | - | - | - | - | 0.33 | 0.33 |
| | 1.62 | 2.21 | 2.79 | 1.84 | 2.75 | 2.65 |
| Total Before Allocation to YDC | 68.22 | 70.81 | 75.72 | 78.44 | 81.22 | 80.45 |
| Allocation to YDC | | | | | | |
| President | (0.40) | (0.40) | (0.50) | (0.50) | (0.50) | (0.50) |
| Communications | - | - | - | - | - | - |
| HR & It | - | - | - | - | - | - |
| Res Plan & Reg. Affairs | - | - | - | - | - | - |
| Finance, Billing & Purchasing | (0.75) | (0.75) | (0.21) | (0.21) | (0.21) | (0.21) |
| Operations | - | - | - | - | - | - |
| Engineering Services | - | - | - | - | - | - |
| Health, Safety & Environ | - | - | - | - | - | - |
| Allocation to YDC | (1.15) | (1.15) | (0.71) | (0.71) | (0.71) | (0.71) |
| Net | | | | | | |
| President | 1.60 | 1.60 | 1.50 | 2.50 | 2.50 | 2.50 |
| Communications | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| HR & It | 6.00 | 6.06 | 6.01 | 6.00 | 7.00 | 7.00 |
| Res Plan & Reg. Affairs | 1.00 | 1.08 | 1.00 | 1.00 | 1.00 | 1.00 |
| Finance, Billing & Purchasing | 9.96 | 10.89 | 11.49 | 11.63 | 12.81 | 12.81 |
| Operations | 33.28 | 34.82 | 39.43 | 38.60 | 40.20 | 40.10 |
| Engineering Services | 13.23 | 13.21 | 13.58 | 14.00 | 12.67 | 12.00 |
| Health, Safety & Environ | 1.00 | 1.00 | 1.00 | 3.00 | 3.33 | 3.33 |
| Total Net | 67.07 | 69.66 | 75.01 | 77.73 | 80.51 | 79.74 |

1 **Positions Added in 2005**

- 2
- 3 **1. New position added in 2005: Network/Systems Administrator** – This position
4 was required to meet workload demands resulting from the expanding amount of
5 work in the information systems department, primarily in the areas of client
6 support or first line support of workstations, laptops, printers etc. It was needed to
7 improve quality and cost-effectiveness of IS services. Functions performed by the
8 new network/systems administrator had been previously outsourced; however,
9 the performance was deemed unacceptable.
- 10
- 11 **2. New position added in 2005: Procurement and Contract Administrator** – As
12 the company has grown and the capital requirements have increased the need
13 for support in procurement became acute. This position was added to meet this
14 demand and increasing workload in purchasing areas of the Corporation. This
15 position was carefully reviewed by senior management and considered to be
16 essential and required to meet workload demands in the contracting and
17 purchasing areas of the Corporation.
- 18
- 19 **3. New position added in 2005: Powerline Technician** – This position was
20 required to build capacity in-house and ensure continued availability of a
21 transmission and distribution crew to meet ongoing construction and
22 maintenance requirements necessary to provide efficient and timely customer
23 service. Further, foreseeable construction work in transmission and distribution
24 justified the need for increasing staffing levels in order to create the capacity to
25 perform this type of work in-house. This includes recent expansion of the grid
26 (CSTP Stage 1), potential future projects (CSTP Stage 2) and required
27 maintenance for aging facilities. Reliance on a single local qualified contractor to
28 address core business requirements exposes the utility to risk as there is no
29 guarantee that resources will be available when required.
- 30
- 31 **4. Land Technician added in 2005 is scheduled to end December 2009** - This
32 position was required to ensure that YEC secures the tenure documentation
33 necessary to manage its risks and to ensure access for maintaining system
34 assets, including securing leases, rights of way, easements and title for various
35 land parcels. Once again workload volume in this area was growing dramatically
36 and a decision to hire a land technician was essential.

1 **Positions Added in 2006**

2
3 **5. Electrical Engineer in Training (EIT) added in late 2006, scheduled to end**
4 **August 2008 (2 year term)** – This position is essential and required to alleviate
5 work load issues over the short term in the electrical engineering department.

6
7 **6. Four new positions added in 2006: 2 Apprentice Power line Technician,**
8 **SCC Operator, and Manager Operations** – These positions are essential to
9 provide continued efficient and timely customer service. Further, a material
10 portion of Yukon Energy’s workforce is becoming eligible for retirement. This
11 includes powerline technician positions in Mayo and Faro, and these technicians
12 will be needed to take over those positions.

13
14 Also, in relation to SCC Operator and Manager Operations positions, Yukon
15 Energy faces material risks due to the loss of significant numbers of employees
16 at a time when the labour force in general is constrained due to an aging
17 workforce and decreasing pool of skilled labour. Loss of workers of retirement
18 age also represents a loss of critical knowledge, skills and experience in
19 operating and maintaining core assets. Yukon Energy has focused on attracting
20 and developing new talent that can develop skills and capture and retain the
21 knowledge base of existing workers.

22
23 **Positions Added in 2007**

24
25 **7. New Position added in 2007: Vice President, Operations and Engineering -**
26 The position was created upon the recommendation of the YEC Board and was
27 due to high levels of work load requiring engineering experience at senior levels.

28
29 **8. New Position added in 2007: Documentation Specialist** – This position was
30 required to address current limitations in the documentation of procedures at
31 YEC prior to the retirement of employees with expertise in various technical
32 areas. After a review by senior management it was decided that it was necessary
33 to begin to preserve the Corporation’s “intellectual capital” by documenting
34 critical operations and maintenance procedures (as well as developing
35 preventive maintenance schedules), transferring knowledge/ skills into procedure
36 manuals. This process will also be linked to developing safe work procedures
37 required to comply with OH&S regulations.

1 **9. New position added in 2007: Manager, Environmental Assessment and**
2 **Licensing** – This position was required to address the increased legislated
3 requirements and ongoing workload related to implementing, managing and
4 maintaining environment management systems.

5

6 **Positions Added in 2008**

7

8 **10. New Position added in 2008: Records Management Analyst** – This position
9 was required to address material file storage space issues faced by YEC related
10 to records management and library systems. Yukon Energy requires polices,
11 guidelines and procedures be developed and implemented to provide for
12 economy and efficiency in the creation, use, maintenance and disposal of
13 obsolete records.

14

15 **11. New Position added in 2008: 2-Year Term Financial Administrator** – This
16 position was required to address additional and material workload requirements
17 in the finance department in 2008 and 2009 related to two major projects (i.e.,
18 the GRA and Financial System Replacement).

19

20 **12. In 2008 Office Administrator will be increased to .80 FTE from .60 FTE due**
21 **to CIS System Conversion** – This position was deemed necessary to increase
22 by .2 additional hours the FTE of the Office Administrator in order to address
23 increased workload associated with the customer billing system replacement
24 project.

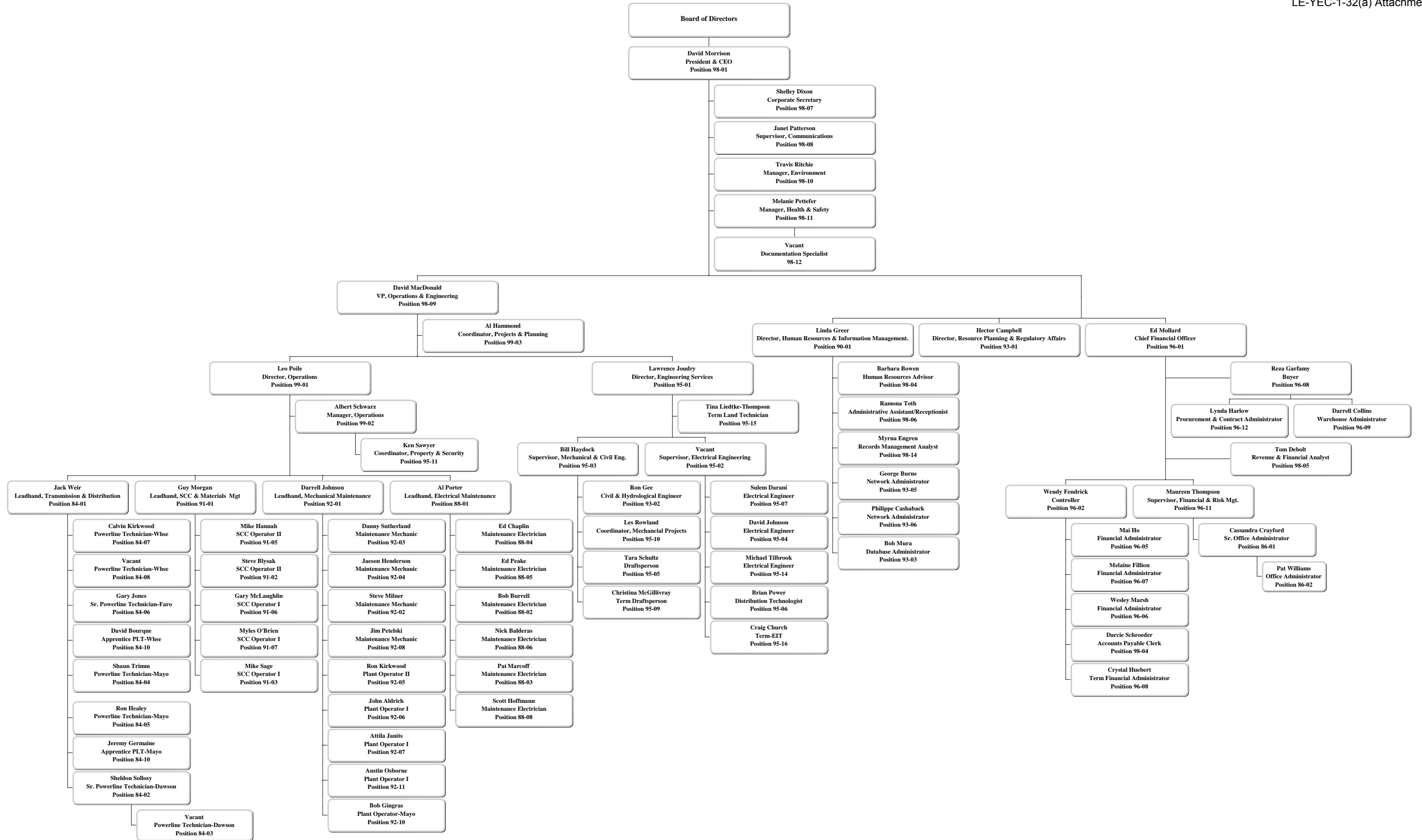
25

26 **13. New position added in 2008: Coordinator, Capital Projects** – This position
27 was required to provide coordination support for the various capital projects
28 being undertaken by YEC at this time. It was considered essential to have a
29 position dedicated to prioritizing project activities in order to ensure that they are
30 scheduled with effective timelines and resources consistent with achieving
31 corporate goals and strategies.

32

33 **14. Temp Jr. Environmental Technician summer student for 2008 and 2009 -**
34 This position was required to provide assistance to address the increased
35 legislated requirements and ongoing workload related to implementing,
36 managing and maintaining environment management systems.

- 1 For each position added since 2005 workload in each department and area was
- 2 reviewed in detail by senior management. Each position was considered essential.



January 2005

