

1 Q. Re: 2013 Capital Projects Over 200,000 but less than 500,000: p. D-239

2 Upgrade Server Technology Programs:

3 Please provide a copy of IBM's recommendations referred to at p. D-242?

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5 A. Previous IBM advice on server replacement has been verbal and, consequently,
6 there is no document available. IBM advice for server replacement to Hydro over
7 the years has been aligned with generally accepted IT industry best practices, as
8 identified by Hydro staff. Best practices are monitored by Hydro's Information
9 Services group through regular incorporation of strategic guidance from Gartner IT
10 research analysts, along with in-house analyses of industry trends. Additionally, IBM
11 has recently provided us the following specific observations on server lifecycles
12 based on their experience with other clients and the industry in general:

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14 *"Normally accounting in businesses we deal with are 3 to 4 years for Servers and 4*
15 *to 5 years for Storage. For Power Utilities, our experiences are there is not*
16 *significant growth requirements compared to other business, so the cycles are*
17 *longer by 1 to 2 years. So, for Servers, 4 to 5 years, and for Storage 5 to 6 years.*
18 *Often the major reason to LifeCycle the hardware has to do with Server/Storage*
19 *Reliability, Availability and Serviceability (RAS) characteristics. For many products,*
20 *often beyond 5 years, the Maintenance Agreement costs have begun to rise and it's*
21 *normally for financial reasons the products are LifeCycled."*

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23 *"The same basic principles apply of maintenance costs, and lack of availability of*
24 *parts for expansion/upgrade (CPUs become unavailable, memory changes every*
25 *couple of generations etc.) making it more expensive to keep the old Server going*
26 *than to replace. The other thing that tends to be pushing upgrades is newer versions*

1 *of OSs being required for support/application reasons and not being supported on*
2 *hardware more than a couple of generations old.”*

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4 *“Business cases are often made to LifeCycle based on the cost of software like*
5 *Oracle and VMware as newer Servers can offer a significant performance increase*
6 *using the same software licenses.”*