

- 1 Q. How have the exciter replacements on Bay d’Espoir units 1 - 6 improved:
2 1. reliability?
3 2. efficiency?
4 3. environmental performance?

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- 7 A. 1. Reliability

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9 Items incorporated into the design for the new ABB exciters to
10 improve reliability are redundant bridges, redundant ac/dc power
11 supplies, individual field flashing circuits as opposed to one source for
12 all exciters and monitoring functions in the software itself.

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14 The following statistics are presented to identify the fact that there
15 may have been some problems with the new exciters. However, the
16 majority of the problems with the new exciters have been minor in
17 nature and easier to troubleshoot resulting in reduced outage
18 durations.

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20 The forced outage rate for the new ABB exciters (1997 to present) is
21 2.22 forced outages/year where as the old GE exciters had a trip rate
22 of 1.74 trips/year (For the period 1967 to 1993). However, the
23 average outage duration for the new ABB exciters is 10.5 hours/year
24 as opposed to 32.95 hours/year for the old GE exciters (for the period
25 1983 to 1993). In addition, the ABB statistics include all forced
26 outages as opposed to just trips when the units are in service.

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1 2. Efficiency

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3 The ABB exciters installed on Bay d'Espoir Units 1-6 have not had an
4 effect on plant efficiency.

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6 3. Environmental Performance

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8 The GE exciters had PCB capacitors which have now been removed.