1	Q.	Further to NP-64 NLH: It is reasonable to assume that over time upgrades
2		and improvements (i.e. runner replacements, penstock upgrades, re-winds,
3		etc.) to plants would improve plant efficiency and therefore the conversion
4		factor. In Hydro's opinion, would it be more appropriate to use current (most
5		recent) conversion factors and historical inflows to determine the expected
6		hydro production in a test year? If not, why wouldn't it be more appropriate to
7		use the most recent conversion factors that reflect plant upgrades and
8		efficiency improvements?

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11 Α. Yes, It is reasonable to assume that over time some upgrades and 12 improvements may improve efficiency and have some impact on conversion 13 factor and it would be appropriate to use the most recent conversion factors, 14 but only if the improvements have been proven. However, it is difficult to 15 measure specific improvements due to the actual loading point of the unit in 16 relation to the turbine efficiency. These factors are subject to hydraulic and 17 power system conditions which vary considerably over time, making a 18 precise estimate difficult.

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It is for reasons such as these that Hydro is using conversion factors only
since the implementation of economic dispatch and not using the historic
record. This is also a reason why Hydro only recommends changes after a
period of time, when changes that are expected to effect unit efficiencies are
actually demonstrated.

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It should be noted that the opportunity for increased efficiency by equipment
replacement is typically higher the older the unit, where the design was less
optimized and engineering practices were not as refined.