



Contribution ID: 29

Type: **Oral presentation**

## Impact of RF Source Efficiency on RF Accelerator Sustainability

*Tuesday 13 May 2014 15:00 (30 minutes)*

RF accelerator electrical energy consumption at the U.S. DOE laboratories was 1 TW-hr in FY2012, and is projected to rise to 1.5 TW-hr by 2018. A major fraction of this energy is used to produce RF power (e.g. this fraction is >50% at SLAC, which is ~40% of the total site energy usage). Although it has long been recognized that improving the efficiency of RF sources would improve sustainability and reduce accelerator program operating costs, developing and implementing higher efficiency systems is typically beyond the means of the programs at individual labs. With the encouragement of the new DOE Accelerator Stewardship program, we have performed a complex-wide survey of RF sources to identify upgrades that could impact multiple lab programs, potentially enabling new sustainability improvement opportunities.

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**Session Classification:** Tuesday afternoon 1

**Track Classification:** SPC judgements