

<b>Title</b>	<b><i>Linac L6 SLED Test Stand Project</i></b>			
Project Requestor	Michael Borland			
Date	October 20, 2008			
Group Leader(s)	G. Goepfner, A. Nassiri			
Machine or Sector Manager	Nicholas Sereno			
Category	Accelerator Hardware and ID Improvements			
Content ID*	APS_XXXXXX	Rev.	ICMS_Revision	ICMS Document Date

\*This row is filled in automatically on check in to ICMS. See Note <sup>1</sup>

**Description:**

<b>Start Year (FY)</b>	<b>2009</b>	<b>Duration (Yr)</b>	<b>1</b>
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**Objectives:**

The purpose of this initiative is to build a SLED conditioning test stand out of the existing linac L6 Klystron and a new prototype water skid already built.

**Benefit:**

Completion of this project will allow conditioning of all spare SLEDs before they are used in one of the linac sectors L2, L4 or L5. At present, we have no way of conditioning our spare SLEDs outside of using one of the SLEDed linac operational sectors. Conditioning a SLED using an operational linac sector would mean conditioning could only proceed during studies. This would disrupt studies as well as allow only for very limited SLED conditioning time.

**Risks of Project:** See Note <sup>2</sup>

Low.

**Consequences of Not Doing Project:** See Note <sup>3</sup>

If a SLED in linac sector L2 or L4 fails, we would have to replace it with an unconditioned spare and condition it. Conditioning would likely take many hours to days to complete during which the linac and all APS machines would not have beam available. A conditioned SLED installed in L2 or L4 would be expected to condition in a few hours at most drastically reducing downtime.

**Cost/Benefit Analysis:** See Note <sup>4</sup>

Many of the components are of significant cost, but have significant benefit. Hence, cost/benefit is favorable. In addition, the prototype water skid and L6 klystron already exist so only misc. plumbing, waveguide, vacuum and controls components need to be purchased going forward.

**Description:**

This project will utilize the existing linac L6 klystron/modulator system and a new test skid already built by the MOM group. Only relatively inexpensive plumbing, waveguide, vacuum and controls components need to be purchased and installed to be able to condition spare SLEDs in the new test stand.

**Strategic Project Proposal**  
**Funding Details**  
**FY 08 \$**

**Cost (\$k)**

Year	AIP	Contingency
1	27.3	33.3
2		
3		
4		
5		
6		
7		
8		
9		
<b>Total</b>	<b>27.3</b>	<b>33.3</b>

Contingency may be in dollars or Percent

The effort portion need not be filled out in detail by March 28

**Effort (FTE)**

Year	Mechanical Engineer	Electrical Engineer	Physicist	Software Engineer	Tech	Designer	Post Doc	Total
1	0.12	0.12		0.12	0.12	0.12		0.6
2								0
3								0
4								0
5								0
6								0
7								0
8								0
9								0

<sup>1</sup> **Notes:**

**ICMS.** Check in first revision to ICMS as a *New Check In*. Subsequent revisions should be checked in as revisions to that document i.e. *Check Out* the previous version and *Check In* the new version. Be sure to complete the *Document Date* field on the check in screen.

<sup>2</sup> **Risk Assessment.** Advise of the potential impact to the facility or operations that may result as a consequence of performing the proposed activity. Example: If the proposed project is undertaken then other systems impacted by the work include ... (If no assessment is appropriate then enter NA.)

<sup>3</sup> **Consequence Assessment.** Advise of the potential consequences to the facility or to operations if the proposal is not executed. Example: If the proposed project is not undertaken then \_\_\_\_ may happen to the facility. (If no assessment is appropriate then enter NA.)

<sup>4</sup> **Cost Benefit Analysis.** Describe cost efficiencies or value of the risk mitigated by the expenditure.  
 Example: Failure to complete this maintenance project will result in increased total costs to the APS for emergency repairs and this investment of \_\_\_\_ will also result in improved reliability of \_\_\_\_\_. (If no assessment is appropriate then enter NA.)

