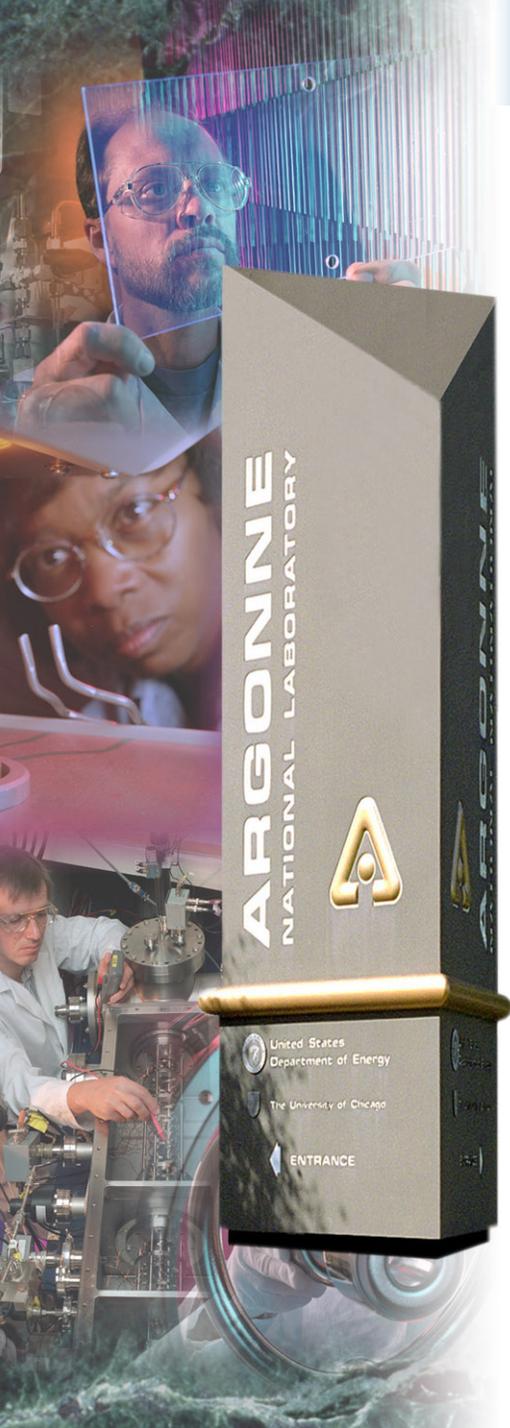


Proposal Number **476**

# **BPLD activation without gap closure**

*Om Singh*

*10/7/2005*



## Project: (AOD 476) BPLD activation without gap closure

**Objective:** Implement a "force enable" bit for beam position limit detector (BPLD) system.

**Background Information:** New Initiative; Single Year Funding; High priority

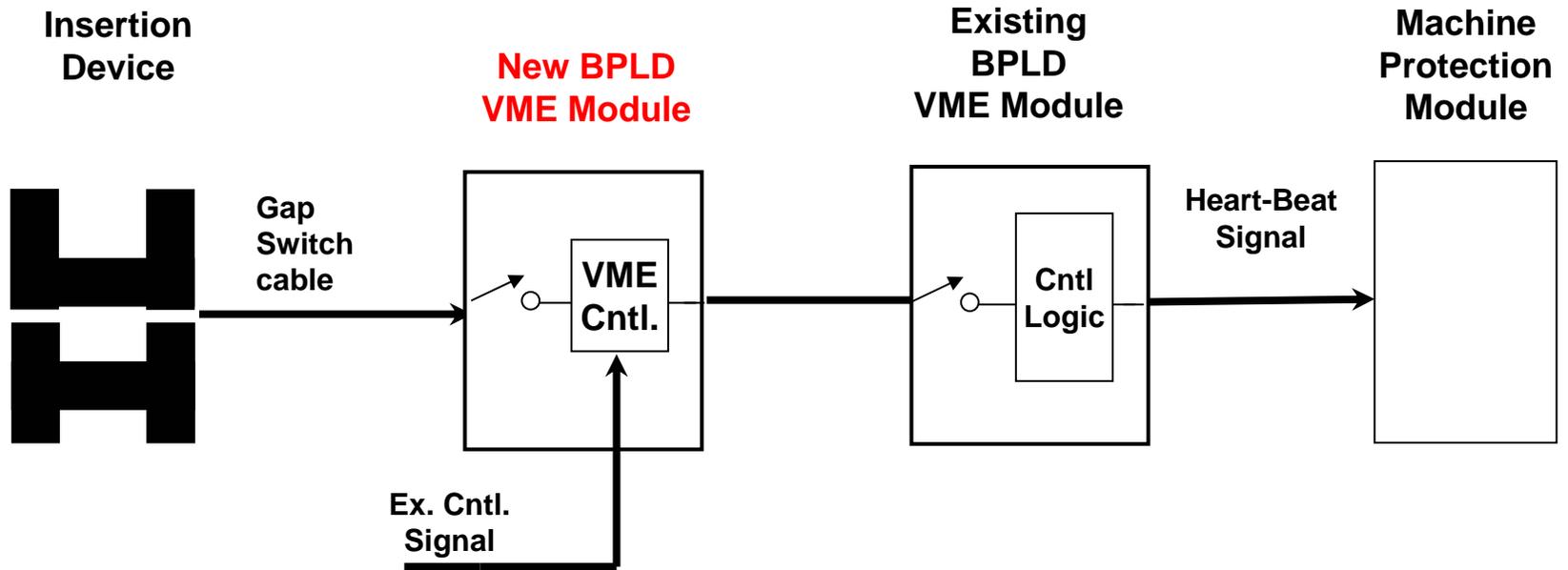
**Justification:** This would allow to arm BPLD system without closing insertion device gaps. This feature is required when high current study is done to protect from a single dipole like error in the ring.

**Consequence:** At present, a software based beam position limit detector system is used during high current study. The response of this protection is slow (of the order of one sec). It does not provide vacuum chamber protection from fast beam excursion that could occur from a single dipole like error.

**Requested Funds (FY06):** \$38.25 K ( AIP )

FY	2006	2007	2008	Total
Noneffort	\$38.25 K			\$38.25 K
Existing Effort	\$91.45 K			\$91.45 K
New Effort				
Total	\$129.69 K			\$129.69 K

# Proposed Beam Position Limit Detector (BPLD) Block Diagram



## Project: (AOD 476) BPLD activation without gap closure

### Objective

- ✓ *To provide Machine Protection without closing insertion device gap for high current study*
- ✓ *Maintain system integrity and fail-safe conditions*

### Implementation Plan

- ✓ *New DBPLD VME module will be inserted in between the current gap switch chain*
- ✓ *This Module will contain additional relay, which is controllable via EPICS*

### Alternative Implementation Plan

- ✓ *Investigate the current DBPLD Module to determine if the new feature can be implemented via logic*