

SLAC MEMORANDUM

RSC-00-001

TO: Distribution

02/15/00

FROM: G. Nelson 

SUBJECT: Radiation Safety Committee Meeting February 7, 2000
Unattended Operation of NLCTA

Attendees:

Members: N. Ipe, H. Lynch, G. Nelson, M. Ross*, J. Sheppard, R. Sit

Others: C. Adolphson, W. Baumgartner, K. Jobe, J. Liu, W. R. Nelson

Marc Ross requested permission to operate Klystrons and modulators at the NLCTA for the purpose of processing test accelerator structures when an operator is not in attendance.¹ The gun will be locked off to prevent beam operation when an authorized operator is not present. With the gun locked off there may still be dark current in the accelerating structure but radiation levels are not expected to be a problem.

Even though an operator may not be present in the control room, there will be a designated EOIC (Engineering Operator in Charge) responsible for the processing operation at all times. The EOIC will perform daily inspections and complete a daily inspection check sheet. A call in list will be prominently posted identifying back up staff as well as the responsible EOIC. In addition the SLAC security guards will provide surveillance of the NLCTA area three times per shift.

It was noted that even when an operator is present in the control room monitoring of the structural facility, access to the roof and Klystron area for example, is not presently a routine requirement.

Radiation Sources on the NLCTA roof have been identified and will be shielded (nine locations, typically at bends in the waveguide structures, will be covered by 1/8" thick Pb lined plywood boxes). In addition a gate at the roof access stairs will be posted indicating the roof is a radiation area. There is also a BSOIC (BSONIC08) located on the roof; if the BSOIC exceeds 10 mr/hr the RF is turned off. The level of hazard in the Klystron area is similar to the 2 mile Linac Klystron gallery. OHP will follow standard practices including radiation surveys every other week.

Two modifications will be made to the hardware PPS panel in the NLCTA Control room:

- 1) The "Stopper enable" key switch will be changed to be captive in the enable position. This will allow "anyone" to disable the stoppers, i.e. turn off the RF, in an emergency.
- 2) The PPS panel "local/remote" key switch will be captive in the local position so that when switched to remote and the key is locked up no one can operate the panel controls except for the above mentioned stopper enable key switch.

* Though Marc is a member of the RSC he is also the presenter and proponent of this NLCTA proposal so he did not wear his "RSC hat".

Also, additional Yellow/Magenta lights and new signage will be installed outside the NLCTA housing.

These PPs modifications have been reviewed internally by the Controls Department Safety Systems Review Office.²

The Radiation Safety Committee approved the proposal with two requests:

- 1) Report on the integrated dose for RF processing
- 2) Inform Ken Moffeit (SOC) to make sure other safety issues are addressed. (Marc and Keith are addressing other issues (References 3, 4 & 5) but these were not of concern to the RSC.)

References:

1. A proposal to operate the NLCTA for the purpose of RF Processing accelerator structures without an Operator in Attendance – M. Ross – Jan. 18, 2000
2. NLCTA proposed PPS changes – W. Kroutil – Dec 15, 1999
3. Environmental safety of proposed NLCTA operating schedule change – Joe Kenny – Dec. 1, 1999
4. Unattended 24-hour operation of the NLCTA – Robert Reek – Dec. 2, 1999
5. Unattended 24-hour operation of the NLCTA – Rick Yeager – Nov. 30, 1999