



Radiation safety and automatic machine operation

Magnus Lundin, 2015-12-04

Outline

- PSS, radiation monitors and watchdog
- Alarm handling
- Automated machine operation

The Personnel Safety System (PSS)

- Handles critical radiation safety
- Maintains a set of forbidden machine settings
- Will alter/stop operation automatically

The radiation monitors

- 30 units
- Hardwired to PSS
- 4 h dose budget
- Will alter/stop operation automatically

The watchdog program

- Handles less critical radiation safety
- Dynamic
- Dose minimization
- Monitors e.g. accelerated charge and current
- Will alter/stop operation automatically

PSS alarm recovery

- Not automated
- Operator investigates, logs and resets

Examples

- Emergency stop
- Forced entry
- Radiation monitor (close TL and wait for dose budget balance)

Watchdog alarm recovery

- Charge/current exceeds limit
- (Soft) stop linac operation (e.g. close valve)
- Operator investigates
- Operator reset (not yet implemented)
- Resume operation (e.g. open valve)

Unmanned operation?

- Probably against SSMs intentions
 - 21 § Följande uppgifter ska journalföras:
 1. driftsdata för acceleratorer eller annan bestrålningsutrustning, signerade av ansvarig operatör,
- Explicitly against the current permit
- Risk assessment mitigation factor: operator intervention
- Not what we have communicated
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Linac and RF cavities off when not manned.