

SE utility supply reference book for the instruments (Doc. No. ESS-0038163)

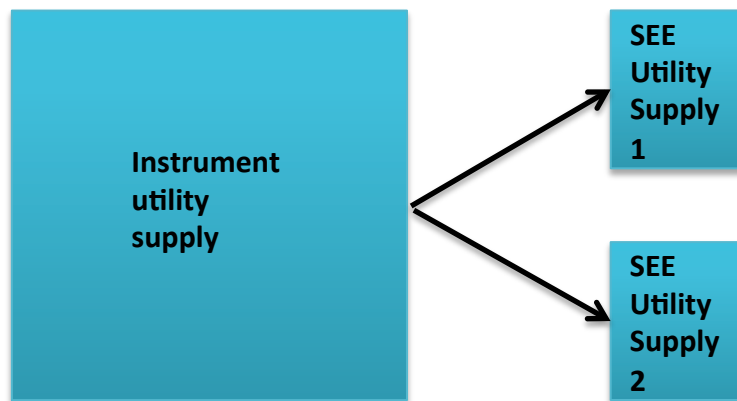


- What are the objectives of utility supplies ?
- Is it really necessary ?
- Where to place it , how could it looks like ?
- If you need more , give us your input / ideas !

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- What are the objectives of the utility supplies ?

- The SEE utility supply is part of the instrument utility supply, both provided by the instruments.



All equipped with standardised components, couplings/connectors.

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- **What are the objectives of the utility supplies ?**
 - For time optimization two sets of supplies are needed :
 - One at the sample area, active (primary) SEE
 - One beside the instrument to prepare the next experiment, passive (secondary) SEE

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- What are the objectives of the utility supplies ?

- Serving pool-SEE, but also instrument SE with :
 - Electrical Power, single/3-phase/UPS
 - Digital/analog signals/IT-Network/Interfaces
 - Insulated (from instrument) ground point
 - Cooling water
 - Gases : He, Ar, N2 – std. gases only
 - He-recovery-line
 - Pump exhaust-line
 - Compressed air

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- What are the objectives of the utility supplies ?

- The utility supply itself can have 4 sub panels :
 - Electrical power, single phase 230V, UPS 230V
 - Electrical power, 3 phase
 - All with circuit breaker ,
ground fault circuit interrupter
 - Signals, IT, interfaces,..., ground(neutral point)
 - Non electrical media, cooling water, gases,...
with unique, standard connectors

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- What are the objectives of the utility supplies ?

- Forming a supply standard at the instruments.
- Simplifying exchange of parts.
- Optimizing storage of parts, reducing costs.

Finally the purpose is :

**Minimizing neutron waste by reducing SEE
changing time.**

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- Is it really necessary ?

- If the instrument will **never** need
any kind of pool SEE
.... – then **not** , ...

-> otherwise **yes**

- Keep in mind, later installation and/or upgrade
costs much more and is often only a provisional solution

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- Is it really necessary ?

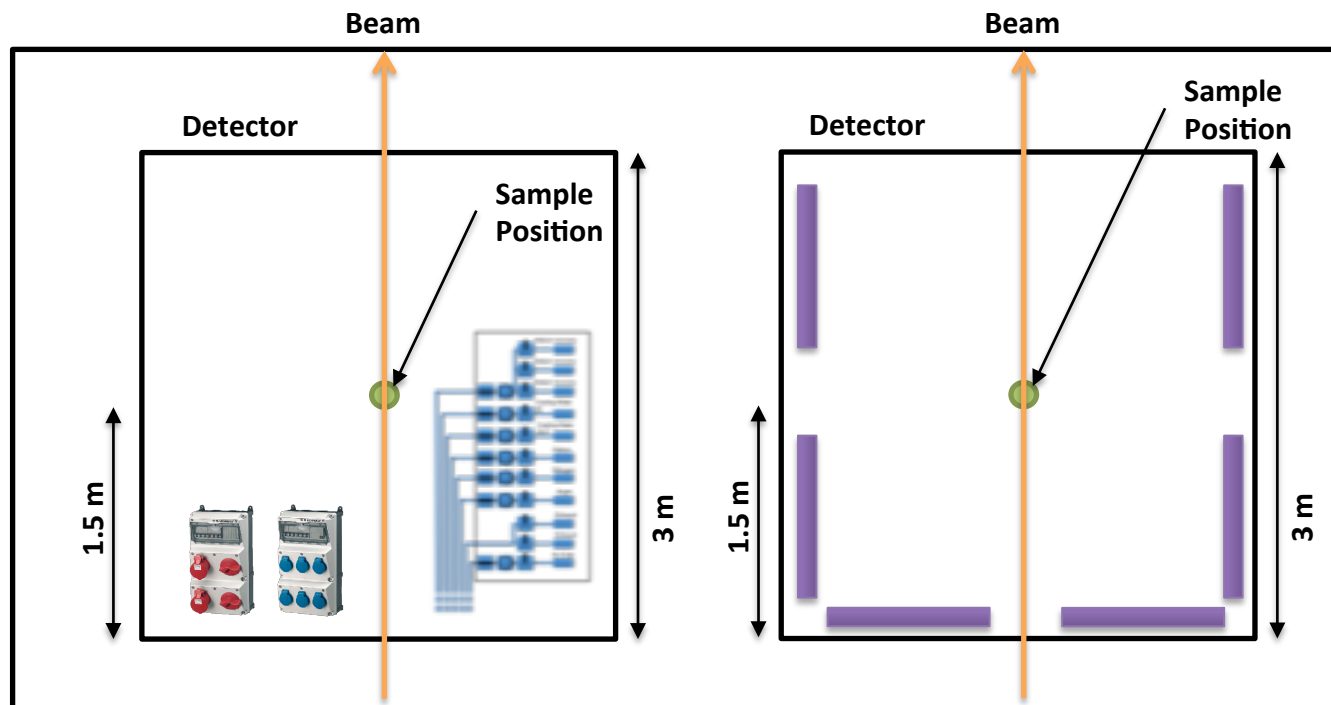
- Some instruments might be “sneaky”, by sharing utility supplies with other (neighbor) instruments or Lab’s.

Remark : This is strongly banned

- Violates grounding policy.
- Each instrument has to be separate grounded.
- Electrical noise/cross currents on the earth conductor can occur.

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- Where to place it , how it could look like ?
 - Example : SANS, inside and outside, platform



 - Possible mounting positions of SEE utility supply panels

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- Where to place it , how it could looks like ?
 - On top- loading instruments, in cabinets on the platform. Beside the instruments.
 - Individual solutions, NMX, ODIN, FREIA,..... also with individual placed cabinets.
 - At small instruments, instrument supply could be the SEE utility supply.

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- Need some more supply-(media) ?
- Have some ideas/good experiences for real “hardware”, e.g. connectors ?
- Your input is welcome !!
 - Thank you for your attention