Information And Communication in Operation At GSI

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Outline:

1. The relevance of communication
2. Rough sketch of GSI operation
3. Involved groups in operation
4. Making information available
5. A platform of communication
6. How we want to improve
7. Conclusion
1. The relevance of communication:

Transportation of
- information
- directives and guidelines
- motivation

Fundamentals:
- you need to have contact
- sending and receiving messages
- communication is more than exchanging words
- might be necessary to form a decision
2.1. GSI accelerators:

**UNILAC**
- 50 Hz repetition rate
- 3 ion sources
- 16 experimental caves

**SIS18**
- max. rigidity 18Tm
- slow extraction
- fast extraction
- beam pulse 1µs-10 sec.
- 10 experimental caves

**ESR**
- Operation in parallel
- beam pulse from a few seconds up to 30 minutes
2.2. GSI operation:

- 3 accelerators: linac, synchrotron, storage ring
- up to 6000 operations hours per year
- 3 operators on shift and about 30 people on call
- about 130 people are involved in the machine operation in general
- up to 6 experiments with 3 isotopes and different energies and intensities can run in parallel
3. Involved groups:

Operators have 2 tasks concerning communication:

• gather or distribute messages
• be the link between the other groups

They are supported by the operation coordinator to manage these things.

Involved groups

- machine physicists
- technical staff
- operators
- beam users
4. Making information available

- beam time schedule -> request of users
- machine status -> availability of the accelerator
- operation meeting -> report and analysis
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Beam time schedule:
- published in the internet
- contains the sequence of approved beam requests of the experiments
- daily meeting for discussing and organizing details
- protocol for the shift crews is provided

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<th>Week 31</th>
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<tr>
<td>U255, Düllmann/Düllmann, 50Ti(PG), 5.5-8.5 MeV/u, 1-2 particle microAmps in X8, 50 Hz/ ~ 5 ma, X8 TASCA</td>
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4 rows UNILAC
3 rows SIS
1 row ESR
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Electronic Log Book

Events / colors:
- Ion source serv.: brown
- Set up: yellow
- Beam on target: green
- Breakdown: red
- Standby: light blue

Listing of details for the breakdown event:

Two experiments:

major breakdown, which lasts 2 days
Operation meeting:

- every Wednesday morning meet the technical staff, machine physicists, beam time coordinator, operation coordinator
- long term survey of the repair technical problems
- reports from all accelerators about operation of the last 7 days
- report of the experiments
- possibility to discuss all operation events
- analysis of break downs and fails
- decisions for service breaks and performance improvements

Keep it as short as possible and make decisions as fast as possible.
5.1 A platform of communication:

- Main Control Room

Beam setup for users provides the opportunity to learn from each other.

Relocate noisy discussions to a separated corner.
5.2 A platform of communication:
Main Control Room and visitors

- relation to the public is very important, that’s why the GSI- MCR is part of the visitor tour

- operators sometimes felt disturbed by the visitor groups and argued about the poor explanation of their work

- they demand an announcement of each group by the tour guides, this is done by a simple phone call

- now sometimes operators join the presentation and support the tour guide with interesting information
6. How we want to improve:

- control of the information flow (beam time scheduling)
- ask for explanation to assure understanding (beam set up)
- use official nomenclatures (break down)
- explain decisions (daily work tasks)

Instead of complaining about missing information – provide information!
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7. Conclusion

• distribute information
• organize f2f contact between the groups
• talk in one language, establish moderation
• care about the people who are not involved in discussions/meetings
Thank you for your attention!

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