

Belle II Shift Policy Document

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Scope of this document

This document covers Control Room shifts, Belle II safety shifts, Belle II Commissioning Group shifts, Data Production and Software Quality shifts. Sub-detector shifts are managed and accounted by the individual sub-systems and covered in another document. The implementation of the policy described here is the responsibility of Belle II Management.

Validity of this document

This document is amended each year as necessary and approved by the Institutional Board before the start of the *Run Year*.

Run Year

The “*Run Year*” is defined as the time period between the end of a summer shutdown and the beginning of the following one in which detector operations, usually consisting of - but not restricted to - physics data taking, are scheduled. *Run Years* thus cross over the boundaries of solar years and Japanese fiscal years and correspond to periods of roughly homogeneous detector and accelerator conditions. The start of the “*Run Year*” is defined to be on August 1st.

Shift Roles

Shift roles fall into two general categories

- *Local* shifts that require the presence at KEK,
- *Remote* shifts that can be done via computer at home Institutions.

They are defined at the beginning of each *Run Year*.

For Phase 3 running, shift roles are defined as follows:

Local

1. Control Room Captain
 - Responsible for running the Belle II detector data taking in the control room
2. Control Room Navigator
 - Responsible for running the Belle II detector data taking in the control room
3. Control Room Shadow
 - Mandatory training shift for first time CR shifters
4. Belle II Commissioning Group
 - Responsible for the communication between the Belle II Control room and the SuperKEKB control room regarding detector backgrounds and machine operations (i.e. injection, tuning etc.)
5. Belle II Safety Shifter
 - KEK Safety officer by Belle II KEK staff members

Remote

6. Data Production & Data Production Expert
 - Responsible for attending data (re-)processing
7. Software Quality
 - Responsible for checking the quality of the simulation and reconstruction software

Roles 1 & 2 above are indistinguishable in Phase 3, sharing exactly the same responsibilities and receive the same shift points, but may be differentiated in the future.

Shift Load

The total number of shifts to be covered in each *Run Year* is proposed, based on the duration of the run and the number of defined shift roles, by:

- Run Coordinator for roles 1-5
- Data Production Coordinator for role 6
- Software Coordinator for role 7

And approved by the Belle II management.

Shift Weights

All shifts are credited a number of shift points according to the following tables:

Local shifts

*The total number of points assigned for each of **Control Room, BCG and Belle II Safety** shifts in one week is 21, corresponding to the total number of shifts in the week, with the following weights:*

Monday-Thursday block (4 shifts) - 10.5 points

(OWL) - 4.2 points

(DAY) - 2.8 points

(SWING) - 3.5 points

Friday-Sunday block (3 shifts) - 10.5 points

(OWL) - 4.2 points

(DAY) - 2.8 points

(SWING) - 3.5 points

Control Room Shadow shifts are assigned 0 points

The credit is equally divided among all shifts in the block and assigned to each shifter as she/he signs up for a shift block. The score of each shifter will be automatically assigned to her/his home Institution for subsequent accounting.

Remote shifts

*The total number of points assigned for all **Data Production** shifts in one week is 5.6, which is the equivalent of one week's worth of CR shifts in the DAY time, with the following weights:*

Monday-Thursday block (4 shifts) — 2.8 points

(OWL) - 0.933 points

(DAY) - 0.933 points

(SWING) - 0.933 points

Friday-Sunday block (3 shifts) — 2.8 points

(OWL) - 0.933 points

(DAY) - 0.933 points

(SWING) - 0.933 points

The total number of points assigned for each of DP Expert and Software Quality in one week is 1/3 of one week worth of CR shifts in the DAY time:

Weekly Thursday-Thursday — 1.867 points

Shift distribution among the Institutions (Shift Quota)

The load of shifts is shared by all Belle II Institutions based on the number of members in the following categories:

- Physicist — Faculty & Staff,
- Physicist — Term limited,
- PhD Student.

These three categories are collectively called “PhD Physicist”.

Based on the number of shifts to be done and the total number of Belle II PhD Physicist members, a quota of shift points is established each *Run Year* for each Institution for each of the defined shift types (CR, BCG, etc.).

The count of the number of PhD Physicists at each Institution is carried out at the beginning of the official *Run Year* on August 1st, and the shift point quota for each Institution is computed and published on the Belle II Shift Central Confluence page.

The Belle II Members DB (B2MMS) is used as a reference for all these calculations; it is the responsibility of each Institution Representative to verify that the Institution’s information in B2MMS is accurate at all times.

Quota Fulfilment

Institutions are required to fulfil their assigned quota each year. Remote and local quota must be both fulfilled at the same time, which means there is no compensation between local and remote quota. Remote and local quota are the sum of the quotas of all the remote and local shifts, respectively.

Quota Carry Over

The fraction of the quota achieved is evaluated at the end of each *Run Year* and the balance carried over to the next *Run Year*.

Each year the quota due is obtained from the algebraic sum of the current year quota and that carried over from the previous years, thus achieving compensation across multiple years. Carry over has no expiration date.

Shift Booking

Before booking a shift, it is the duty of the shifter to make sure she/he fulfills that shift role’s pre-requisites that are listed in the relative Confluence page and that she/he takes appropriate training (see below).

Shift booking is opened for each run period for the entire run period about four to eight weeks before the first shift of the run.

Booking of shifts is done using the official Belle II shift WEB based system *ShifTool* at the following URL

<https://shift.belle2.org/>

Shift Cancellation

Booked shifts can be cancelled by the shifters only until a predefined number of days before the start of the shift. Past this deadline, shift cancellation is only allowed in exceptional cases by contacting the Belle II Shift Manager, and only after the individual and/or her/his Institution has tried her/his best to find a replacement.

Shifts that are cancelled by the Belle II management (i.e. Run Coordinator) at least 8 weeks ahead of the start of the shifts are not credited any shift points. If cancelled on a shorter notice, they will be fully credited.

The cancellation deadline is defined at the beginning of the *Run Year* by the Shift Manager, who can change it if the booking situation requires it at any time during the run.

Shift Training

Shifters must take all the required training, including taking shadow shifts for CR, BCG and DP Expert and make sure they fulfill all the shift's pre-requisites before their first shift.

Control Room shift training lessons and appropriate documentation (shifter manuals) are organized and maintained by the DAQ online group.

Two CR training sessions per week are organized according to a schedule defined by the Run Coordinator. Lessons are held in the Belle II Control Room at Tsukuba Hall; shifters are asked to book these lessons using ShifTool.

BCG shift training and appropriate documentation (shifter manuals) is organized and maintained by the Deputy Run Coordinator.

DP shift training and appropriate documentation (shifter manuals) is organized and maintained by the Data Production Coordinator.

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