Operation report 2017 for Nishina and RIBF water-cooling systems

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1 Operation condition

In FY2017, the Nishina and RIBF water-cooling systems were operated for seven months, respectively. These operation periods correspond to the scheduled beam service time of RIBF, *i.e.*, five months. In addition, the Nishina's water-cooling system was used not only for full RIBF operation but also for AVF standalone and AVF+RRC operations.

2 Trouble report

Fortunately, during FY2017, there was no significant problem that resulted in beam service interruption for both the Nishina and RIBF water-cooling systems. However, they were affected by minor problems.in addition problems such as water leaks, cooling facilities often stopped owing to a blackout and trouble of CGS (cogeneration system) due to thundervolts in FY2017.

3 Periodic maintenance

During the shutdown period of the accelerator, the following activities were carried out as part regular maintenance.

(1) Cleaning of the cooling towers
(2) Inspection and overhauling of the cooling-water pumps
(3) Inspection of the inverter of the RIBF water-cooling pumps
(4) Inspection and overhauling of the air compressor
(5) Replacement of some superannuated hoses, joints and valves used in the system
(6) Cleaning of the strainers and filters used in the deionized water production system
(7) Extension of the sensing wires of the water leakage alarm to floors of new areas
(8) Switching electricity during planned power failure as well as restoration of each device
(9) Securement of minimum power at low load operation of CGS

4 Establishment and improvememt

We relocated the cooling facilities for GARIS 2 because GARIS 2 was moved from the Rilac to the Nishina building this year. As a future will plan , we plan to establish a cooling facility for RILAC RF superconducting acceleration cavity Moreover, we a schedule the reinforcement of the RRC cooling system, enhancement of the fRC RF cooling system, and establishment of new Faraday cup G01 cooling facility.

Fig. 1. Photograph of the RIBF Cooling water pump maintenance.

References
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