Report of the 25th Meeting of the Accelerator Technical Advisory Committee for the Japan Proton Accelerator Research Complex (J-PARC)

February 12 – 14, 2026

The Accelerator Technical Advisory Committee (A-TAC) for the J-PARC Project held its 25th meeting from February 12 to 14, 2026, at the J-PARC Research Building in Tokai, Japan. The A-TAC members who attended in person were Alexander Aleksandrov (ORNL), Håkan Danared (ESS), Wolfram Fischer (BNL), Simone Gilardoni (CERN), Toshiyuki Shirai (QST), John Thomason (STFC), and Jie Wei (MSU, chair). Alexander Valishev (FNAL) and Sheng Wang (IHEP) attended remotely (Appendix 1).

The A-TAC thanks the J-PARC management and staff for their thoughtful arrangement of this in-person / remote hybrid meeting, and all the presenters for their excellent and comprehensive talks. In addition, the accelerator team responded appropriately, arranging specific talks to the requests made at the last A-TAC review and to the questions and homework requests from the committee at this review.

1 Executive Summary

The J-PARC accelerator team is commended for persistently ramping up J-PARC accelerator capabilities, demonstrating an MR beam power of 954 kW in FX and 101 kW in SX, and a system test without beam at 50 Hz repetition rate in the Linac. Continuous increase in the MR beam power capability is essential to successfully delivering the performance required for the Hyper-Kamiokande program. The achievement of the Linac 50-Hz repetition rate capability is strategically important beyond the current needs of the irradiation facility, expanding the horizon for possible future extensions, including the ADS programs.

Similar to major high-power facilities elsewhere in the world, J-PARC facility performance and availability is more limited by high-power targetry systems. Team consolidation and resource sharing would be important to focus efforts on addressing the challenges. Examples of resource sharing could include: (1) beam intercepting devices design and engineering; (2) material study and optimization; (3) radiation transport calculations and estimates; (4) personnel protection, machine protection, and equipment protection; (5) waste management and environment protection; and (6) general engineering and controls.

The J-PARC facility availability (so-called scheduled availability) across MLF, NU, and HD varied from 78-91% in JFY2021, 62-87% in JFY2022, 26-65% in JFY2023, and 39-59% in JFY2024. While the main drivers to the downtime in JFY2024 were the targetry systems, the main drivers to the downtime in JFY2023 were on fire response, maintenance, and utility work. A-TAC commends J-PARC's efforts in streamlining the response protocol to suspected fire incidents with the goal of ensuring safety as the highest priority, yet without unnecessarily sacrificing facility availability and user satisfaction. A-TAC also encourages the J-PARC accelerator team to study the categories of suspected fires, developing response protocols according to the categories, and training staff accordingly.

Rigorous engineering processes are essential in ensuring fully functional engineered products meeting the high-availability requirements of accelerator operations. Qualified, seasoned, and dedicated engineers are vital to accomplish both operational and development tasks fulfilling J-PARC's mission.

J-PARC has a structured effort to plan for critical spare part inventories and the replacement of obsolete systems. This effort is still limited by the available funding.

In addition to a proton-based irradiation facility, a heavy-ion based irradiation program may equally be of interest to pursue, in particular along with advantages with a linac. A-TAC concurs with J-PARC's plan to collaborate with the Tandem Van de Graaff staff for joint efforts, and encourages the J-PARC accelerator team to also study linac-based heavy ion options and capabilities for possible future extensions.

Given the lengthy R&D time required to pursue future major initiatives, A-TAC urges the J-PARC team to focus R&D efforts on strategically important directions beyond 2028. A-TAC agrees with J-PARC's plans for the RCS upgrade in preparation for the establishment of a future second target station.

The J-PARC accelerator team has addressed all seven A-TAC 2025 recommendations. Presentations were given at this review covering the two topics requested by A-TAC at the 2025 Review. Responses to the two homework assignments at the 2026 Review were timely. The committee commends the J-PARC team for their dedication and vigor addressing pressing issues.

In the following, we summarize the main recommendations of the A-TAC 2026. Each of the recommendations (**R1 – R6**) will be elaborated multiple times across the main body of this report following committee findings and comments. The order of the main body of this report follows the fourteen talks (Appendix 2) and two homework assignments presented at this review.

A-TAC is surprised to learn that among the accelerator workforce, only 20-30% are engineers while 70-80% are physicists. This may result in a lack of rigorous engineering process to ensure fully functional engineered products meeting the high-availability requirements of accelerator operations. At present, the shortage of engineers is being compensated for through outsourcing. In many other laboratories elsewhere in the world, the ratio between physicists and engineers is roughly reversed. Qualified, seasoned, and dedicated engineers are vital to accomplish both operational and development tasks fulfilling J-PARC's mission.

R1: Consider enhancing the engineering workforce and strengthening the engineering processes.

J-PARC management has initiated plans to consolidate the workforce and to create new sections for new initiatives like the irradiation work. Team consolidation and resource sharing are important to focus efforts in addressing the challenges faced by the J-PARC team. Examples for consideration include: (1) beam intercepting devices design and engineering; (2) material study and optimization; (3) radiation transport calculations and estimates; (4) personnel protection, machine protection, and equipment protection; (5) waste management and environment protection, and (6) general engineering and controls.

R2: Evaluate the demands and benefits of possible resource sharing among different divisions and sections of J-PARC organization.

The joint effort between the different machines to minimize losses in the MR has produced excellent results, minimizing losses along all accelerators.

R3: Plan sufficient joint beam tuning periods between the Linac, the RCS and the MR and, if possible, up to neutrino production target, to ensure the best transmission efficiency throughout the entire accelerator chain.

A-TAC strongly encourages reconsideration of the risks associated with the early deployment of such a critical system like the MR abort dump, considering the current state of its engineering. The committee understands the advantages of an early deployment, particularly in terms of optimising the use of precious and limited beam tuning time, but strongly suggests considering the balance of benefits versus risks in installing the dump in 2026 versus 2027, when the engineering is likely to be more consolidated and reviewed.

R4: Consider the possibility and consequences of a delayed installation of the new MR abort dump to allow more time for engineering studies and technical choice validations before deployment. Organize a readiness review before installation.

With the full budget for the MR 1.3 MW ramp up based on a request made two years ago, and with the expectation that equipment will now be more costly, it would be helpful to have more detail on cost and resources included in the schedule. This would allow the committee to comment more easily on prioritization, potential efficiency savings and decision making in the event of not being able to secure sufficient budget to complete all elements of the plan by 2028, or of significant delays to any of the individual tasks.

R5: Update the schedule for the MR towards 1.3 MW to include cost and resource loading for each individual task. Identify which groups are carrying out each task and whether there are any potential overlaps that could be exploited for efficiency savings. Show the critical path for achieving 1.3 MW operation.

Developing and possessing new accelerator capabilities is highly important to J-PARC's future growth. An example is the development of LINAC at 50-Hz repetition rate. Another example are the heavy-ion capabilities.

R6: Assess fully the benefits and possibilities of developing heavy-ion capabilities, including heavy-ion based irradiation facilities and possibly emphasizing the advantage of a linac-based facility.

A-TAC 2026 homework assignments:

1. Present the current J-PARC organization chart; identify and indicate possible resource sharing on common or similar subjects, for example (1) beam intercepting devices design and engineering; (2) material study and optimization; (3) radiation transport calculations and estimates; (4) personnel protection, machine protection, and equipment protection; (5) waste management and environment protection.
2. Present details on the plans to move from "conceptual proposal" for the basic components of the dump core to a final design that would bring to production compatible with the presented time line. Present the design and the study points still in progress and the technical choices to be made for the other subsystems. Include if possible the engineering studies for the full systems done, needed or planned on top of the Ansys simulations in the presentation.

2 Items for the Next Meeting (A-TAC 2027)

The committee would like to hear from the J-PARC accelerator team in particular:

1. Present facility and accelerator upgrade roadmap beyond 2028.
2. Present the status of the new MR abort dump.

3 02 J-PARC Accelerator Overview (WF)

Findings

- MLF user beam time in early 2025 was interrupted by 3 months due to a small gas leak in the liquid mercury pump. Operation resumed in April at 900 kW beam power, and was stopped again after 1 month due to a target water leak. Operations resumed after summer maintenance at 710–780 kW, with 90% availability. The lowered beam power is to extend the target lifetime.
- MR HD operated at 80–90 kW in 3 periods and NU reached up to 830 kW in user runs. In May 2025 100 kW in SX and 954 kW in FX were demonstrated. Since 27 January 2026, 900 kW operation is under way.
- Six major failures occurred in 2025 causing downtimes between 1 to 3 days. The failures included 4 magnet power supply failures, a vacuum leak in a turbo pump, and a water leak in a RF power supply.
- In the Linac the first full-system 50 Hz test was successfully completed, but due to changes in the operating schedule, the test was without beam as initially planned.
- In response to R1 from the last ATAC (causes of leading downtime), the top downtime contributors for the last 5 years were identified. Prominent are HV DC in the Linac and RF in the RCS in JFY2021, JFY2022 and JFY2025; MR BM in JFY2023, JFY2024 and JFY2025. For JFY2021–JFY2025 MR bending magnets and power supplies represent the largest cumulative downtime, followed by MR SX, Linac HV DC, and RCS RF systems. The strategy to reduce failure time centers on failure-prevention measures and procurement of critical spare parts for MR magnets/PS, Linac HVDC/klystrons, and RCS RF components.
- In response to R2 from the last ATAC (response protocol to incidents), the procedure to notify the fire department when the fire alarm system is activated has been revised. Under the old procedure the local fire department was called immediately when an alarm was received, under the new procedure the local fire department would be called only if a fire is confirmed by local J-PARC staff.
- The requested J-PARC availability data were presented. 2 types of availability are tracked: scheduled availability As (achieved hours/scheduled hours), and effective availability Ae (achieved hours/(scheduled hours - canceled hours)).
- The MLF scheduled availability As have varied widely from 39% to 91% over the period JFY2021 to JFY2025 (up to December), while the effective availability Ae range over that period was from 91% to 97%. In JFY2023 and JFY2024 there were large discrepancies between As and Ae due to fires and target related failures.
- The MR NU As range over that period was from 32% to 78%, and the Ae range from 75% to 90% over the same period. For NU too there were large discrepancies between As and Ae in JFY2023 and JFY2024, here due to fire, pump failures, and NU target helium gas flow rate. The HD As and Ae ranges are 26% to 91% and 56% to 93%.
- MLF planned for ~6.8 cycles (~150 days), with a goal of 7.2 cycles pending additional funding; fewer reserve days due to scheduled power outages.

- On the roadmap, 2028 was identified as the target year for achieving MR-FX operation at 1.3 MW, aligned with the JAEA mid- and long-term plan.

Comments

- The committee congratulates the J-PARC team on demonstrating an MR beam power of 954 kW in FX and 101 kW in SX, the latter one 1 year ahead of schedule, and a full 50 Hz systems test (without beam) in the Linac.
- For the MLF the gas leak in the liquid mercury pump, and the water leak in the MLF target have created significant downtime, and impacted the user program. In addition, the now required two-year service life of the presently installed target has reduced the beam power to 700-780 kW to ensure no premature failure will occur.
- The availability numbers over the last five years show that the beam time reduction is dominated by a few events with large impacts. Reducing the number of events and/or the duration of the repair time after an event will have a large positive impact on the user programs.
- The revised procedure for the response to fire alarms was approved after discussions in the Fire Safety Management Council meeting in July 2025. The new procedure calls for J-PARC staff to check the site for an actual fire before the Local Fire Department is called. This would eliminate machine downtime from events that are not real fires (e.g. overheated equipment with no risk of fire). It was not entirely clear to the committee who and how fast it can be determined how a real fire occurred that required a response from the Local Fire Department. In light of the significant fire at GSI, Germany, last week, another evaluation of the procedures may be in order, to ensure the response to a real or suspected real fire is not compromised.

Recommendations

None.

3 03 Status of MR (WF)

Findings

- The MR beam power continues to increase steadily through beam dynamics tuning and phased hardware upgrades, and shortening of the magnet cycle. Routine operation has reached 900 kW in FX and 92 kW in SX, with successful demonstrations of 954 kW in FX and 100 kW in SX.
- The introduction of new arc optics reduced beam losses by roughly half (from 1.5% to 0.8%), localized in the collimator section, and enabled 954 kW acceleration; 1.28-s cycle operation was established in January 2026 with ~0.6% beam loss localized at collimators.
- In FX mode, the magnet cycle was reduced from 2.48 sec to 1.36 sec to 1.28 sec. The next target is 1.16 or 1.20 sec as part of the roadmap toward 1.3 MW in FX mode.
- SX performance was improved with a 2nd harmonic RF system during injection, diffuser use, and spill feedback tuning improved longitudinal flattening and stability with 100 kW operation expected in the near future.
- Repeated IGBT failures in bending magnet power supplies caused downtime of a few days each time, and investigations point to possible gate-signal noise and reflux current concentration during MPS events. To prevent further IGBT failures, measures include long-term gate-signal monitoring, addition of reflux circuits, introduction of negative gate bias, and preparation of 3–6 fully assembled spare IGBT units in JFY2026. The original IGBT model (introduced with the upgraded main power supply) is not available any more, and an alternate model will be used in the future.
- The root cause for the FX kicker PS was identified as a water leak into the thyratron oil tank from cooling-panel brazing defects; updated cooling panels eliminate spot brazing, and spare tank preparation is planned.
- Investigations of the BM116 coil layer short (helium leak test, resistance mapping, magnetic field measurements) showed coolant inlet leakage leading to insulation degradation - similar to an event in 2016 (BM067); disassembly of the coil is planned to provide conclusive results of the analysis. There are no elevated losses at the locations of the coil failures.
- For 1.3 MW operation, hardware still to be installed include the 10th and 11th fundamental RF cavity (with then 518 kV and 574 kV total gap voltage), expansion of trim-sextupole system (from 4 to 24 units by 2028), and the replacement of defective coils in high-field FX septum magnets, which was completed in the Summer of 2025.
- Systematic replacements of aging components and systems are needed. This includes RF cooling, chiller, timing modules, magnet PS components, BPM processing, spare readiness being improved for bending magnets, IGBT units, ESS, and FX kicker oil tanks, though budget limits prevent full coverage of all magnet families.
- For JFY2026, in FX mode it is planned to proceed with >1 MW in advance of the NU target upgrade (that presently limits the FX beam power), and in SX mode to establish routine 100 kW operation.
- In response to Recommendation 7 from the 2025 A-TAC (spares readiness), prioritized procurement and inventory updates continue, while improving installation readiness for high-

risk elements. 3–6 fully assembled spare IGBT units are prepared, one spare oil tank for the FX kicker system, and a spare bending magnet (with vacuum duct integration considered). The spare inventory has to be optimized within budget constraints.

Comments

- The MR beam beam power increase in FX and SX still follows the multi-year plan from JFY2020 through JFY2028, with the SX beam power one year ahead of the target. JFY2028 will mark a major milestone with the planned start of Hyper Kamiokande operation.
- The increase to 954 kW in FX and 100 kW in SX demonstrates that beam-dynamics limitations have been overcome, with future performance gains now primarily dependent on hardware robustness and installed RF/magnet capability rather than optics tuning alone.
- The new arc optics represent a significant progress, cutting beam losses roughly in half and localizing them to collimators, thereby enabling 954 kW acceleration and with 0.6% losses.
- Magnet cycle shortening from 2.48 s to 1.28 s has been the key driver for power increase, but further reduction toward 1.16 s will increase stress on power supplies, RF systems, and protection systems.
- Repeated IGBT failures in bending magnet power supplies are currently the dominant operational risk, and while mitigation measures are technically sound, the transition to an alternate IGBT model introduces qualification and lifetime uncertainty under high-repetition operation.
- The identified root causes of the FX kicker PS failure and BM116 coil short point to cooling and mechanical integrity issues rather than beam-induced damage, highlighting aging infrastructure as an increasing reliability concern at higher power levels.
- A systematic approach to address obsolete systems has been implemented. Progress on spare readiness and prioritized procurement addresses previous review recommendations, but budget limitations constrain full system coverage, making risk-based spare optimization critical for sustaining routine >1 MW operation.

Recommendations
None.

3 04 Beam study results of the MR (SG, TS)

Findings

- The maximum beam power delivered by the MR was increased practically as planned thanks to the increase in the repetition rate to 1.28 s, the use of new optics and the optimisation of the beam injected by the RCS. All this while keeping losses below 1% and achieving continuous operation up to 900 kW.
- Empirical optimisation of the collimator aperture has also helped to improve losses, most of which are located in the collimation section and during injection.
- The beam losses observed at the restart in November were minimised thanks to the optimisation of emittances and the reduction of the halo in both the Linac and the RCS, ensuring better transmission both in the 3-50 BT line and at the injection into the MR.
- The beam losses are mostly due to betatron resonances at low energy, in particular close to injection. To increase the available surface area in the tune diagram and reduce the overlap between the tune shift due to spatial charge and resonances, particularly structural ones, a first new optics was successfully implemented, reducing losses a first time during the 900 kW first running period. Operation with the working point below the 2nx – 2ny line then resulted with even more reduced losses, reaching the 0.6-0.7%. A reduction of half integer tune in both planes seems to be even more promising in simulations, but it will not be possible to test this promising solution before 2028, when the new QFR-PS circuit power supply will be available.
- The final goal of the studies is to reach stable operation at 1.3 MW in a 1.16 s long cycle with 3.3e14 pp by 2028, while keeping the losses at a minimum to allow hands on maintenance for all the equipment. As early as May 2025, acceleration of 954 kW eq. (2.7e14 ppp) in a cycle of 1.36 s was done, that would correspond to 1015 kW eq. in a cycle of 1.28 s, even if losses were about 1.6%. This constitutes an important milestone in the path to 1.3 MW.

Comments

The committee congratulates you on achieving 900 kW for continuous operation with losses reduced to 0.6-0.7%.

The committee fully supports the continuation of the simulation studies carried out with Xsuite, which have begun but still require time. In addition to guiding the setting-up of the collimation system, the simulations could also provide further information on the mechanisms causing the losses, in particular by observing the impact distributions on the collimator jaws and the planes in which they occur.

It would be interesting to compare the residual dose measurement data with that from the beam loss monitors, also to ensure that there are no points with losses not covered by the monitors themselves.

It would be interesting to compare the magnetic measurements taken on the dipole removed due to the short circuit in one of the coils with the magnetic models used in the simulations.

The joint effort between the different machines to minimize losses in the MR has produced excellent results, minimizing losses along all accelerators.

Recommendations

R3: Plan sufficient joint beam tuning periods between the Linac, the RCS and the MR and, if possible, up to neutrino production target, to ensure the best transmission efficiency throughout the entire accelerator chain.

3 05 Slow extraction status and plan (WF, SG)

Findings

- In January 2025 MR SX achieved a 4.24 sec magnet cycle, ~2 s spill length, and beam power of 83 kW, 99.6% extraction efficiency, and 83% spill duty factor ($\langle I\rangle^2/\langle I^2\rangle$ at 10 kHz sampling frequency).
- In 2025, the beam power increased to 92 kW (8.1×10^{13} ppp, world record intensity), maintaining 99.6% efficiency and 83% spill duty factor. In November operation was 88 kW with a 81% spill duty factor. The power reduction was due to an increase in the frequency of instabilities, suspected due to higher electron cloud activity that would require some conditioning time to reduce again.
- Beam instability can occur during debunching, 60 ms after the RF is turned off, and associated with electron clouds and vacuum pressure rise, and transverse oscillations.
- In May 2025 a 101 kW SX test achieved 99.6% extraction efficiency and 83% spill duty factor.
- To increase the intensity threshold of the instability, a 2nd harmonic RF system at injection reduced the peak current, and reduced injection loss and suppressed instability, enabling stable 88–92 kW operation. Mid-term a new lattice with a slip factor $|\eta|$ that is increased by 50% during acceleration is expected to lead to higher beam intensities. Long-term a 118 MHz VHF cavity will provide longitudinal emittance growth through RF phase modulation.
- The feasibility of a bent silicon crystal (1 mm length, 0.2 mrad bend) has been studied for channeling/volume reflection; FLUKA simulations suggest potential beam loss reduction to ~50% of current levels (diffuser only) with crystal + diffuser.
- After MR upgrades the spill duty factor initially decreased from 83% to 61% due primarily to larger 150 Hz lines in the quadrupole current. Better regulation reduced the 150 Hz components and increased the spill duty factor to 83%. A replacement of the QFR PS is planned by 2028.
- The present experimental target is only rated for 100 kW, and an upgrade is planned to 150 kW around 2031. The upgrades outlined above prepare the MR for this. There is no target value for the spill duty factor and the presently achieved value of 80% is acceptable to the experimental users.

Comments

- The goal of 100 kW slowly extracted beam was reached one year ahead of schedule.
- Several further upgrades (2nd harmonic RF, VHF cavity, crystal) are pursued that can either increase the operating margin for 100 kW operation, and/or raise the extracted beam power further. A target upgrade is planned to 150 kW for around 2031, and these upgrades have the potential to raise the SX power to that level.
- Presently the users are satisfied with the spill duty factor of 80%. The team nevertheless continues on increasing the spill duty factor further (e.g. QFR PS replacement), which is a worthwhile effort.

Recommendations
None.

3 06 MR towards 1.3 MW (JT)

Findings

- The talk addresses Item #2 from ATAC 2025 – to present a comprehensive design, construction, installation and commissioning plan for the remaining elements required for MR 1.3 MW operation.
- In present beam operation the MR has successfully delivered 913 kW beam power to the neutrino experiments with losses of ~0.94%. A 1 MW beam study in May 2025 accelerated 954 kW beam power with losses of ~1.6%.
- The plan is to incrementally increase the beam power from 1 MW in 2025 to 1.3 MW in 2028, by employing a series of hardware upgrades and beam loss reduction measures.
- The major hardware upgrades for high power operation are:
    - Upgrade of the PSs for the main bending magnets and the QFR quadrupole magnet. Section 08 of this report is dedicated to this upgrade.
    - Upgrade of the RF systems. With the installation and commissioning of the RF#10 system in summer 2025 the maximum available voltage was increased from 462 kV to 518 kV, and the RF system is now capable of accelerating beam powers up to 1 MW. Simulations show that with 10 RF cavities a beam power of 1.3 MW is achievable, but the team plans to add an extra cavity to provide operational headroom and improve stability margins. This is expected to be completed by 2027. In parallel with this, the anode PSs will be upgraded to accommodate up to a maximum of 19 inverter units per PS to maintain the gap voltage and compensate for beam loading at 1.3 MW.
    - Upgrade of the abort beam dump. This is covered in detail in section 07 of this report.
- Beam loss reduction has been studied through simulations, and the required hardware for 1.3 MW operation has been identified. Manufacturing, installation, and commissioning of equipment is ongoing.
    - Additional trim quadrupoles will provide optics correction and bunch train shift, and additional trim sextupoles will be used for third order resonance control. It has also been demonstrated that a new working point under 21 can be maintained as another way to suppress third order resonances.
    - An intra-bunch feedback upgrade will be used to suppress higher-frequency transverse instabilities. An evaluation board has been built and tested at 3 GeV and will now be extended to a production system at 30 GeV.
    - Radiation surveys in the MR tunnel are performed every week to ensure residual dose levels remain below hands-on maintenance limits in non-collimator areas as the beam power is increased.

- Individual design, construction, installation and commissioning plans are presented for many of the upgrades itemised above, and an overview of the combined timelines for all the upgrades and beam commissioning gives a comprehensive view of the move towards 1.3 MW.
- With a secured budget, adequate beam study time, strong maintenance planning, and continued development, the MR is expected to begin 1.3 MW beam commissioning in 2028.

Comments

The committee welcomes the J-PARC team's response to the request to present a comprehensive design, construction, installation and commissioning plan for the remaining elements required for MR 1.3 MW operation. All equipment upgrades and beam loss reduction measures have been represented and timelines look appropriate.

With the full budget for the MR 1.3 MW ramp up based on a request made two years ago, and with the expectation that equipment will now be more costly, it would be helpful to have more detail on cost and resources included in the schedule. This would allow the committee to comment more easily on prioritization, potential efficiency savings and decision making in the event of not being able to secure sufficient budget to complete all elements of the plan by 2028, or of significant delays to any of the individual tasks.

Recommendations

R5: Update the schedule for the MR towards 1.3 MW to include cost and resource loading for each individual task. Identify which groups are carrying out each task and whether there are any potential overlaps that could be exploited for efficiency savings. Show the critical path for achieving 1.3 MW operation.

3 07 MR beam abort dump (SG, SW)

Findings

- The currently installed dump can only receive 7.5 kW, which corresponds to a maximum of 20 shots per hour with high-intensity beams. This severely limits the time available for beam tuning and becomes even more evident for studies towards 1.3 MW. A new dump, with a design inspired by the CERN PSB dump, could instead bring the limit to 30 kW thanks to active nitrogen gas cooling and a graphite and copper core. The dump would be installed in the same area as the current one, with a plug-pipe to separate the nitrogen-cooled absorbent part from the primary vacuum of the MR.
- An initial design was developed in collaboration with RAL, with whom the sandwich geometry for the absorbent part and the cooling system were defined.
- The geometry of the dump has been selected considering the beam parameters corresponding to 1.3 MW operation and beam trajectory variation measured during a tuning period that took place in 2018.
- At present, there is only a conceptual design of the core components as their cooling system. It was decided to locate all UHV elements away from the absorbing part. The duct terminus design is based solely on strength against atmospheric pressure and temperature. Losses at the duct terminus are considered part of the core total loss.
- The cooling is ensured by the active flow of nitrogen gas circulating at atmospheric pressure. The maximum circulating speed of nitrogen close to the absorbing cores is 22 m/s. Nitrogen gas will be measured at the beginning of the maintenance period each year to identify specific radioisotopes generated by proton irradiation or other potentially dangerous chemical compounds. Nitrogen will be replaced if necessary.
- A series of interlocks will be installed based on redundant temperature measurements at multiple points, on beam intensity, on vacuum level and on gas flow.
- The simulated energy deposition density and thermal analysis of the components in steady state indicates that the dump can sustain 60 consecutive shots separated by 20 seconds.
- Potential issues have been identified and analysed:
    - MPS: temperatures are constantly monitored, there will be a differential pressure monitoring via gas circulation;
    - Heat stress: analysis of temperature rise and thermal stress is ongoing, and no major issues have been identified;
    - Gas-flow: Fluid analysis is currently in progress. Concerning the cooling efficiency at the plug-pipe end, the nitrogen flow path design could be improved.
    - Commissioning: commissioning will be done by gradually increasing the beam power and temperature rises in each section will be monitored.

Comments

While the committee congratulates the team on the progress made during 2025, A-TAC would like to express its concerns regarding the current state of the new abort dump design. The engineering, construction and installation planning appears very challenging given the complexity of the system, with detailed studies and designs still to be completed just a few months before installation.

The committee has probably not been exposed to all the technical studies carried out, but some key aspects, such as the fatigue limits of the windows, do not appear to have been addressed yet.

The interlocking system is based on thermocouples that were not tested or operated in an equivalent environment.

Given the short amount of time, no failure analysis, non-nominal or accidental scenarios or reviews related to the safety of the system could be done.

This seems risky for a system that should last for decades with little or no maintenance and a very low failure probability by design.

The committee strongly encourages reconsideration of the risks associated with the early deployment of such a critical system considering its current state. The committee understands the advantages of an early deployment, particularly in terms of optimising the use of precious and limited beam tuning time, but strongly suggests considering the balance of benefits versus risks in installing the dump in 2026 versus 2027, when the engineering is likely to be more consolidated and reviewed.

It should be considered the possibility to have a new formal review process including other J-PARC experts, in particular engineers, to validate the design and construction prior deployment. This could also be used as an example for the deployment of other complex systems in the future.

Recommendations

R4: Consider the possibility and consequences of a delayed installation of the new MR abort dump to allow more time for engineering studies and technical choice validations before deployment. Organize a readiness review before installation.

3 08 MR main magnet power supplies (JT, ST)

Findings

- The J-PARC team has continued to work on improvements to the MR power supply systems in preparation for higher repetition rates, where the MR cycle will be further reduced from 1.28 s to 1.16 s or 1.20 s. Simulations of the 1.20 s cycle show that the BM family of PSs will have very little operational margin in the current configuration, so the capacitance of choppers 3 and 4 in the capacitor banks will be increased from 480 mF to 540 mF to address the issue. Simulations show that the additional capacitors will increase the operating margin by 2%. The 36 additional capacitor units are being manufactured, and will be installed on BM4, 5 and 6 in JFY2026 and BM1, 2 and 3 in JFY2027.
- For the higher repetition cycle, fine tuning of the current and voltage patterns on all MR PSs will be required to flatten the waveforms at operating margins and flatten the input AC. Test pattern generation for 1.2 s, 15 GeV operation of BM1, and simulations for 1.16 s, 30 GeV operation show that modification of pattern generation codes for BM1-6, QFN and QDN will be necessary, but sufficient. The modification of pattern generation codes is not necessary for the other 12 used PSs. Nevertheless, the commissioning of these PSs will be challenging and time-consuming because of the requirement to optimize numerous parameters with non-linear responses.
- The replacement of the 12 used PSs is planned, but budgetary constraints mean the order of replacement has had to be addressed. Using criteria of the desirability to combine split families into a single family, improvement of PS ripple, aging and availability of spares, and mismatch between the rating of the PS and the impedance of the load, the QFR PS has been identified as the top priority. The budget for the new QFR PS has been approved, manufacture is progressing and the PS is expected to be installed and commissioned in JFY2028. The next new PSs will be manufactured as soon as the budget is approved, starting with small PSs (*e.g.* QDS) and then large PSs which will require some study before deciding on a specification.

Comments

The team is commended for the progress with the MR power supply systems in preparation for higher repetition rates. The issues appear to be well understood, appropriate simulations and beam tests have been carried out, and additional capacitor banks and the new QFR PS are now being manufactured.
The prioritization exercise for replacement of the 12 used PSs has been robust and well-reasoned. However, the committee encourages the J-PARC team to continue with efforts to find funding to replace the remaining PSs as soon as possible and in the meantime to remain diligent in sourcing spares and alternative components to keep the used PSs running reliably.

Recommendations
None.

3 09 Maintenance strategies (TS, SW)

Findings

- The facility engineering section in J-PARC develops a ten-year maintenance plan for the entire J-PARC utilities, including the Linac, the RCS and the MR. The plan incorporates a procurement lead time of utility equipment, and supplementary budgets are being requested based on this schedule. For example, the replacements of the cooling water equipment were carried out for the MR in 2024, and for Linac and RCS in 2025. The upgrades of the utility equipment for the Linac, the RCS and the MR are also planned in 2026.
- In the securing of spare parts for the accelerator, the principle was presented in A-TAC2026. The priorities are determined based on consideration of MTTR and MTBF. Based on this principle, the priority for future spare-parts procurement is outlined using failure history and the current spare-parts inventory for the Linac, the RCS, and the MR. Although it is not realistic to maintain spare coils for all units in L3BT, an alternative approach was proposed, securing long lead-time hollow conductors.

Comments

J-PARC, now about twenty years after its construction, faces an increasing need for countermeasures for the aging problem of both its utilities and accelerator components. The systematic utility-renewal plan and spare-parts procurement plan developed by the J-PARC team are carefully considered. It is essential to secure continuous supplementary budgets in accordance with the plan.
Considering the recent troubles of layer-shorts in the MR bending magnets, the priority for manufacturing the spare coils is high. However, it is important to investigate the root causes of them. In addition, updates to other equipment and utilities should incorporate the latest technical knowledge into their design.

Recommendations
None.

3 10 Future plans for linac and RCS (JT, AA)

Findings

- The J-PARC team intend to realize a Proton Beam Irradiation Facility (PBIF), by upgrading the 25 Hz linac to run at 50 Hz and diverting the additional beam pulses into a new beamline using a new pulsed magnet and septum. The pulsed magnet has been produced, but the pulsed PS, cabling and installation are still under consideration.
- As a stepping-stone towards realization of a PBIF the team has decided to apply to the JAXA Space Strategy Fund to develop a dedicated radiation testing facility for spacecraft, which was one of the original research programs included in the PBIF concept. Such a facility at J-PARC would provide high proton flux, an energy range of 10 – 400 MeV (compared with the current limit of 200 MeV for space use in Japan) and large-area irradiation, ideal for testing radiation effects on electronic devices in low earth orbit satellites, including single event effects. A funding decision on the 31-Oku Yen bid is imminent.
- An irradiation beamline has been designed using identical magnets and PSs to those in the existing L3BT beamline and produces a similar beam envelope. The energy range of 10 – 400 MeV can be achieved either in exclusive use by changing the linac energy or in parallel with operation of the linac to the RCS by using an energy degrader and suppressing energy spread using momentum selection by the beamline bending magnets. The large irradiation area will be achieved using non-linear octupole magnets as used in the J-PARC MLF.
- 50 Hz operation of the linac accelerating cavities, RF sources and magnets up to the L3BT beamline has been demonstrated, albeit with operation at half pulse length due to lack of capacity in the cooling water system. The 10-Oku Yen included in the bid for 'LINAC high rep rate' will cover upgrades to the cooling system, low power RF and chopper control.
- The replacement of RF cavities in the RCS remains on schedule. To date, 6 cavities out of 12 have been replaced with a new single-ended type requiring less water cooling. When all the cavities have been replaced it is expected that operation at 2 MW or more will be supported even in summer.
- 1.5 MW beam tests were conducted in March 2025. After beam tuning of both the LINAC and RCS, beam loss was shown to be significantly reduced (beam loss estimated to be $\ll$ 0.1%, mostly occurring during the injection period).

Comments

The team is commended on the excellent progress in optimizing linac and RCS performance in support of future plans for both the existing accelerators and the Proton Beam Irradiation Facility. The committee wishes the team success with the funding bid for the radiation testing facility for spacecraft, but cautions against this becoming a distraction from the core business of providing beam for the MLF and MR. The plan to use a shared team but make new hires to deal with the additional workload should work well, but resources will need to be carefully managed.

The proton flux requirement for the radiation testing facility for spacecraft is several orders of magnitude less than that for the RCS. A similar flux could be generated simply by stripping a small fraction of the H^- to protons. The committee encourages the J-PARC team to consider this alternative, which is potentially a less complex and more cost-effective alternative.

The 1.5 MW beam tests are very encouraging, and the committee looks forward to the results of further high-power testing, particularly when all the RCS RF cavities have been replaced and 2 MW beam becomes possible.

Recommendations

None.

3 11 Status of LINAC (HD, JT)

Findings

- Single components failed during the last year, with downtime dominated by failures of klystrons, a modulator bias power supply, and quadrupole magnet power supplies. Total downtime due to linac faults is estimated as ~100 hours.
- The ion source is running stably at 62.5 mA. The current run #93 is using an RF antenna made by J-PARC.
- The good ion-source performance of the previous year continues and also run #92 was accomplished without the need for a source replacement.
- Test-stand operation of the ion source at 90 mA and at nominal beam energy of 52.5 kV has been achieved. A total of 5,205 hours has been logged so far. Also, these tests are made with an RF antenna made by J-PARC. No reduction in source lifetime has been observed as a consequence of the higher current and increased caesiation.
- The source parameters at 90 mA are not very different from those at 60 mA, and the output emittance does not increase by more than 14%.
- An endurance test at 75 mA and 50 Hz has started recently.
- The failure rate of SDTL RF couplers is increasing slowly, although only one replacement was needed during last year.
- Failures of magnet power supplies require 1/2 to 1 hr for repair during daytime. Preventive maintenance is performed every ~10 years, focusing on components that have proved to be prone to failures in the past.
- Klystron trips and failures occur at a rate that is not higher than would be expected. If it can be diagnosed that a trip is due to the klystron itself, for instance by observing a vacuum deterioration in the klystron, a replacement can be made in 6 hours, but more time is needed if the source of the trips is less clear (e.g. due to cables, the modulator, etc.).
- The replacement of capacitor banks for the RF system continues as planned, to meet the deadline of March 2027, where all components containing PCB must be disposed of.
- The settling of the tunnel floor continues to be small, except in the SDTL section. However, no change was observed during the last year, and no realignment has been needed since 2019.

Comments

- The reliability of the ion source, now with the J-PARC-made RF antenna, is an important accomplishment by the linac team. Tests with the source at the test stand with 90 mA shows good prospects for stable future operation also at 1.3 and 1.5 MW. Further, the tests that are now starting with 50 Hz pulse repetition rate are important for the proposed new irradiation facility.
- Only one coupler failure was observed during last year, which is less than the previous year. It is not clear if the difference is of a systematic or statistical nature, and the failure rate is not unexpectedly high. It is unfortunate, however, if budget constraints prevent building up a somewhat larger stock of spare couplers.

- Similarly, the rate of klystron failures does not exceed what would be expected. The A-TAC had hoped that funding would have been sufficient for building up a larger stock of spares, which does not seem to have been the case.
- It is, on the one hand, satisfying that repairs or replacements of failed magnet power supplies are made in one hour or less, and on the other hand it shows the value of preventive maintenance of ageing components of these supplies.

Recommendations

None.

3 12 Beam study results of the LINAC (HD, AA)

Findings

- Objectives of beam studies are 1) to achieve stable operation at 50 mA beam current and 500 µs pulse length, 2) to develop stable operation at 60 mA/600 µs, 3) to maintain a high beam quality for injection into MR.
- Losses have been studied as a function of the level of equipartitioning *T*. It was found that a rather low value of *T*=0.3 minimised intra-beam stripping.
- A degraded matching between the linac and the RCS resulted in the observation of unexpected beam loss in 3-50BT.
- A retuning allowed successful MR operation at 900 kW.
- The appearance of the mismatch has periodic behaviour, but no single cause of the mismatch has been identified. It most likely originates between the MEBT1 and the SDTL, but measurements on power supplies in that area did not show significant differences from nominal values.
- The action plan for mitigating this behaviour includes establishing well-defined criteria for mismatch, to continue the search for a root cause, and to prepare a standardised scheme for corrections.
- Chopper leakage, i.e. beam outside of the RF bucket, is still a major source of losses in the RCS, but it is kept at an acceptable level through tuning based on measurements in MEBT2.
- Also chopper leakage at 60 mA was found to be acceptable.
- In a 60 mA beam study, the emittance was reduced by 30% compared to 2021.
- The residual dose at the ACS with 60 mA was predicted based on 50-mA data, showing that current operational settings will remain viable.
- The higher beam loading at 60 mA compared to 50 mA will require additional RF power. Current power margin is being evaluated.

Comments

The joint retuning efforts between Linac/RCS/MR to reoptimise matching and minimise beam loss proved effective and establishing more well-defined criteria for mismatch as well as preparing schemes for corrections is encouraged. This becomes more and more important as MR beam power continues to increase.

Measured Twiss parameters error bars must be provided to make any quantitative conclusions about the effect of the mismatch.

Longitudinal Twiss parameters should be measured and considered for explaining the RCS injection mismatch

Reducing the T factor from 0.7 to 0.5 and 0.3 lead to reduction of the IBSt losses without showing signs of beam edge touching the aperture; further reduction should be considered.

The reported numbers for the residual activation are measured at the surface of the beamline, which makes it difficult to compare with other facilities. Measured or estimated dose rates at 30 cm based on validated attenuation factors should be provided as well.

Recommendations:
None.

3 13 Status of RCS (AA, SW)

Findings

- The RCS successfully delivered 950 kW beam power for about a month in 2025 but the power had to be reduced to 800 kW because of the MLF target issues
- The availability of the RCS proper was high, about 98%, which is higher compared to the previous year
- The two major sources of downtime were a turbomolecular vacuum pump failure and a vacuum tube failure. Beam loss induced radiation is believed to be the primary cause of the pump failure. The pump controllers are being moved outside of the tunnel to prevent future failures. A water leak caused wetting of the vacuum tube, and it had to be taken out of service to dry up.
- RF cavities replacement have been continuing with one cavity replaced in 2025, bringing the total of replaced cavities to 7 out of 12.
- Capacitor banks are being replaced to satisfy the environmental regulation. Seven banks were replaced in 2025.
- A Linear Transformer Driver is being developed to replace aging thyrotrons in the kicker magnet power supply. A prototype has been assembled and tested. It is expected to have a prototype unit deployed during the next summer shutdown.

Comments

Stable delivery of 950 kW beam power for MLF users is a significant achievement. Congratulations to the team.

Possible effect of the beam loss on the TMP vacuum leak is worth to be re-examined and understood to prevent similar events in the future

Recommendations
None.

3 14 Beam study results of RCS (AA, HD)

Findings

- A significant beam loss reduction at 1.5 MW was achieved in 2025 by optimizing many parameters in the Linac and RCS.
- Optimization of the RCS RF Phase Feedback and tailoring of the injected beam energy spread and distribution were two newly found effective knobs for the beam loss mitigation.
- No showstoppers were observed to achieve 1.5 MW of beam power when all RF cavities are upgraded.
- The lessons learned during the 1.5 MW study were successfully applied to 1 MW beam tuning, which resulted in loss reduction achieved at 1 MW in the previous runs. The total beam power loss of 0.1 kW is much less than the collimators' capacity of 4 kW, providing a comfortable tuning margin.
- A still unexplained beam loss increases by ~30% was observed when tuning for 1 MW and 800 kW operation in the fall of 2025 after the summer shutdown. Systematic studies are ongoing to understand the reason and ensuring good tune reproducibility. A change in the linac output Twiss parameters is suspected to play a role.
- Significant effort was put in finding ways to reduce the beam emittance delivered to the MR. It was found that increasing the RCS injected beam energy spread and increasing the amplitude of the debuncher #2 by about a factor of three from the design value made the most effect and led to 30% emittance reduction.
- Resonance correction studies to further reduce the beam loss are being conducted.
- A reduction of foil size is being considered to reduce the foil scattering loss, which is now the dominating loss mechanism.
- Laser wire diagnostics have been deployed and commissioning started.

Comments

Remarkable progress has been made in understanding and reducing the beam loss in the RCS. The path to 1.5 MW seems to be straightforward when RF cavities upgrade is finished. Kudos to the team.

Having, accidentally, additional time for beam study was crucial for achieving these good results.

We commend making progress on the laser wire development, which can provide much needed longitudinal and transverse beam diagnostics at the RCS injection.

Recommendations:
None.

Homework 1: Present the current J-PARC organization chart; identify and indicate possible resource sharing on common or similar subjects, for example (1) beam intercepting devices design and engineering; (2) material study and optimization; (3) radiation transport calculations and estimates; (4) personnel protection, machine protection, and equipment protection; (5) waste management and environment protection. (JT)

Findings

- The current J-PARC organizational chart was presented showing the structure comprising the Safety Division, Accelerator Division, Material and Life Science Division, Particle and Nuclear Physics Division, and Nuclear Transmutation Division. There are also several sections, including the Facility Engineering Section, that sit outside the Divisional structure.
- In general, individual divisions are responsible for particular parts of the facility, but some functions such as radiation control and general safety (Safety Division), and utilities (Facility Engineering Section) are J-PARC-wide.
- The J-PARC Accelerator Division currently comprises 7 sections, each with approximately 10 staff members, supplemented by some outsourcing. Of these staff 70-80% are physicists, with the remaining 20-30% being engineers. Engineering staff are distributed amongst all the sections.
- For issues that concern J-PARC as a whole, technical support is provided collaboratively across divisions. For example, many experts from the Accelerator Division and other divisions and sections have participated in safety reviews for the MLF, and Accelerator Division technical reviews appoint expert reviewers from outside the Accelerator Division to evaluate the proposals.
- For developing common components for the accelerator, target station and experimental groups, J-PARC is considering establishing a new section starting next fiscal year to promote joint development across the facility. This new section will address cross-cutting issues such as maintenance of highly activated components, development of radiation resistant materials and anomaly detection using machine learning techniques.
- As part of the J-PARC future plan, the Accelerator Division is conducting detailed design studies for a heavy ion accelerator in close collaboration with the Tandem Accelerator Group of JAEA, sharing personnel and technical expertise throughout the process.
- If the Accelerator Division was to pursue a new development initiative such as the Proton Beam Irradiation Facility or a superconducting linac project the strategy would be to establish a new section but predominantly using existing staff expertise.

Comments

There appears to be limited technical collaboration across divisional boundaries. For instance, on the specific topic of beam intercepting devices design and engineering there is almost certainly overlap between the work being done in sections across many divisions that could be exploited for efficiency savings.

A-TAC is surprised to learn that among the accelerator workforce, only 20-30% are engineers while 70-80% are physicists. In many other laboratories elsewhere in the world, the ratio between physicists and engineers is roughly reversed. This may result in a lack of rigorous engineering process to ensure fully functional engineered products meeting the high-availability requirements of accelerator operations.

J-PARC management has initiated plans to consolidate the workforce and to create new sections for new initiatives like the irradiation work. Team consolidation and resource sharing are important to focus efforts in addressing the challenges faced by the J-PARC team. Examples for consideration include: (1) beam intercepting devices design and engineering; (2) material study and optimization; (3) radiation transport calculations and estimates; (4) personnel protection, machine protection, and equipment protection; (5) waste management and environment protection, and (6) general engineering and controls.

The staffing strategy to pursue new development initiatives may not be able to provide relevant expertise across all technical areas.

Recommendations

R1 Consider enhancing the engineering workforce and strengthening the engineering processes.

R2 Evaluate the demands and benefits of possible resource sharing among different divisions and sections of J-PARC organization.

Homework 2: Present details on the plans to move from "conceptual proposal" for the basic components of the dump core to a final design that would bring to production compatible with the presented time line. Present the design and the study points still in progress and the technical choices to be made for the other subsystems. Include if possible the engineering studies for the full systems done, needed or planned on top of the Ansys simulations in the presentation. (SG)

Findings

- Single beam impact seems to be within the limit of the material for the tip of the plug-pipe.
- After a multi-cycle of 60 shots with 20 second intervals the temperature of the beam absorbing cores remains below 135 Celsius for the Graphite sections and below 75 Celsius for Copper.
- The residual dose at the tip of the plug-pipe after 10 d of cooling is 41.8 muS/h at 2 m after 5 years of operation in nominal conditions.

Comments

The committee would like to express its gratitude for the preparation of this additional information in such a short time.

An internal review at J-PARC recommended a set of thermomechanical simulation studies, most of which have been completed, in particular for the cooling gas flow. It would be important to consolidate the studies of the external container vessel and the window located after the copper section, in terms of thermal loads, but also considering that they operated under vacuum until now and they will operate at 1 atm in the future. It is important to cross-check that this does not constitute a risk. The simulations and studies only concerned nominal cases, beam trajectory, beam intensity, and size. Non-nominal cases, such as those with off-center trajectories, or non-nominal spot size were not studied.

Recommendations

R4: Consider the possibility and consequences of a delayed installation of the new MR abort dump to allow more time for engineering studies and technical choice validations before deployment. Organize a readiness review before installation.

Appendix 1 – 2026 A-TAC Committee

Below is the list of those attending the 2026 A-TAC:

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Appendix 2 – Agenda

Agenda for A-TAC2026 (Q&A included for each report) **[DRAFT]** 10/23/2025

February 12, Thursday **Venue: a conference room on the 2nd floor of theJ-PARC Research Building and Remort**

Time(JPN.ST)		Period	Category	Title	Speaker	
8:00		*Departing the hotel, "Terrace Inn Katsuta"*				
8:40	9:00	0:20	Time for LAN Connection			
9:00	9:15	0:15	**Executive Session**	*Closed*		
9:15	9:55	0:40	**Project Status**		T. Kobayashi	
9:55	10:25	0:30	**Accelerator Overview**	J-PARC accelerator overview	H. Oguri	R1, R2, Item#1
10:25	10:45	0:20	**Group Photo and coffee break**			
10:45	11:15	0:30	**MR**	Status of MR	H. Hotchi	R7
11:15	11:55	0:40		Beam study results of the MR	Y. Sato	R6
11:55	13:00	1:05	***Lunch***			
13:00	13:30	0:30	**MR**	Slow extraction status and plan	R. Muto	
13:30	14:00	0:30		MR towards 1.3 MW	K. Seiya	Item#2
14:00	14:30	0:30		Beam abort dump	M. Shirakata	R5
14:30	14:50	0:20	**coffee break**			
14:50	15:20	0:30	**MR**	Main magnet power supplies	Y. Morita	
15:20	15:40	0:20		Maintenance strategies	Y. Morohashi	R3, R4
15:40	16:00	0:20		Future plans for LINAC and RCS	Y. Kondo	
16:00	17:00	1:00	**Executive Session**	*Closed*		
<<Reception>> 17:30 - 19:00 at the KEK 1-gou kan						

February 13, Friday **Venue: a conference room on the 2nd floor of theJ-PARC Research Building and Remort**

Time(JPN.ST)		Period	Category	Title	Speaker	
8:00		*Departing the hotel, "Terrace Inn Katsuta"*				
9:00	9:10	0:10	Time for LAN Connection			
9:10	9:25	0:15	**Executive Session**	*Closed*		
9:25	9:55	0:30	**LINAC**	Status of LINAC	T. Morishita	
9:55	10:35	0:40		Beam study results of the LINAC	Y. Liu	
10:35	10:55	0:20	**coffee break**			
10:55	11:25	0:30	**RCS**	Status of RCS	M. Yamamoto	
11:25	12:05	0:40		Beam study results of RCS	P. Saha	
12:05	13:05	1:00	***Lunch***			
13:05	16:30	3:25	**Executive Session**	*Closed*		
<< dinner >> 19:00 - 20:30 at the restaurant in Katsuta						

February 14, Saturday **Venue: a conference room on the 2nd floor of theJ-PARC Research Building and Remort**

Time(JPN.ST)		Period	Category	Title	Speaker	
8:00		*Departing the hotel, "Terrace Inn Katsuta"*				
8:40	10:30	1:50	**Executive Session**	*Closed*		
10:30	11:30	1:00	**Recommendations to J-PARC**		J. Wei	
11:30	12:30	1:00	***Lunch***			
adjourn						