

Evaluation of FY2017 Operating Results for
Institute of Physical and Chemical Research (RIKEN)

August 2018

Minister of Education, Culture, Sports, Science and Technology

1. Items related to the evaluation		
Agency	Institute of Physical and Chemical Research (RIKEN)	
FY for evaluation	FY evaluation	FY2017
	Mid to long-term objective period	FY2013-FY2017 (3rd term)

2. Items related to the assessor			
The Competent Minister		Minister of Education, Culture, Sports, Science and Technology	
Incorporated jurisdiction dept.	Research Promotion Bureau	Dept. and person in charge	Basic Research Promotion Division, Tetsuya Kishimoto
Evaluation and Inspection dept.	Science and Technology Policy Bureau	Dept. and person in charge	Planning and Evaluation Division, Keiji Inoue

3. Items regarding implementation of the evaluation
<p>July 11, 2018: The 13th Institute of Physical and Chemical Research Sub-Committee (“RIKEN Sub-Committee”) of the National R&D Agency Council was held (hearing 1 from RIKEN).</p> <p>July 13, 2018: The 14th RIKEN Sub-Committee of the National R&D Agency Council was held (hearing 2 from RIKEN).</p> <p>August 10, 2018: The 15th RIKEN Sub-Committee of the National R&D Agency Council was held (opinion gathering)</p> <p>August 22, 2018: The 12th National R&D Agency Council was held (opinion gathering).</p>

4. Important items and others relating to the evaluation
<p>October 1, 2016: RIKEN was designated as a national research and development agency.</p> <p>October 1, 2016: The 3rd Mid to Long-term Objectives were revised.</p> <p>October 3, 2016: The 3rd Mid to Long-term Plan was modified.</p> <p>March 23, 2017: The 3rd Mid to Long-term Plan was modified.</p>

1. Overall rating							
Rating *1 (S, A, B, C, D)	A	(Reference) Overall rating in the past fiscal years in this mid to long-term objective period*2					
			FY2013	FY2014	FY2015	FY2016	FY2017
		Improvement of business quality	B				
		Improvement of efficiency in business operations	A	B	A	A	A
	Improvement of financial conditions	A					
Reasons for rating	As shown in the overall evaluation of the agency as a whole, the creation of considerable achievements and anticipated creation of achievements in the future and so on were recognized as a result of comprehensive consideration based on circumstances surrounding the agency's business achievements, efforts and so on through its activities and with the national research and development agency's mid to long-term objectives taken into account.						

2. Evaluation of the whole agency
<p>○ In its activities in FY2017, RIKEN produced remarkable research and development achievements that lead the world in each research field, including emergent matter science research, which is expected to be widely applied to industry, and therefore, it is evaluated that the agency is proceeding with plans for maximization of the R&D achievements.</p> <p>(Examples of remarkable research and development achievements in FY2017)</p> <ul style="list-style-type: none"> • Emergent matter science research: Development of an unprecedented material with rigidity equal to that of plastic and, at the same time, capable of self-restoring from damage, accomplishment of the world's highest accuracy in quantum manipulation in quantum dots, accomplishment of quantized anomalous hall effect at a high temperature region in magnetic topological insulators, and demonstration of topological current in a domain wall structure for the first time in the world are highly evaluated. • Brain science research: Clarification of the mechanisms that sleeping helps new memory formation and that short-term memory formed in hippocampus is transmitted to cerebral cortex and fixed for a long time, clarification of partial mechanism of having an onset of autism, and improvement of abnormal behavior with mice are highly evaluated. • Integrative medical science research: Disclosure of approximately 1,000 pieces of genome-wide sequence data in collaboration with domestic agencies, identification of genes relating to cerebral stroke and multifactorial disorder by genomic analysis, commencement and steady development of the world's first phase I clinical trial using artificial adjuvant vector cells, and successful development of a drug for treating leukemia that eradicates about 80 percent of leukemia cells using humanized mice with acute myeloid leukemia are highly evaluated. • Synchrotron radiation science research: A high use rate of SPring-8 by private industry (about 20%), contribution to the application of R&D results to society including development of the highest grade, low-fuel consumption tires, etc., preparation of an experimental environment of SACLA in which three XFEL beam lines can be used simultaneously by achieving the operation of hard X-ray FEL beam lines by domain of pulses, and a high use rate of SACLA, about 87% to the total operation time, are highly evaluated. • Bio resource project: Elimination of wrong samples and contamination of samples due to sophisticated quality inspection and accomplishment of 0% in recall rate following last fiscal year, and the number of supplies exceeding the target value are highly evaluated for the agency which needs to maintain high levels in both quality and quantity as an agency designated as one of three major bases in the world for all bio-resources it provides. <p>○ Regarding items related to management, such as streamlining business operations, it can be evaluated that steady efforts are underway generally as planned.</p>

3. Issues to be solved and /or improved for each subject

4. Other items	
Main opinions of the council on research and development	<ul style="list-style-type: none"> ○ Many outstanding achievements and obvious progress in social implementation are recognized. Besides efforts of researchers, managerial endeavors and support of researchers could also contribute to these results. ○ There are highly evaluated aspects other than research efforts such as the launch of RIKEN Hakubi Fellows Program to foster outstanding human resources, promotion science and technology hubs, etc. for organizational cooperation, and commencement of efforts for innovation design as a system to meet social needs. The progress of these aspects in the future and results are expected. ○ Efforts announced by RIKEN to be taken in the future at the last fiscal year's sub-committee has reached the implementation phase with specific details. With this adequacy of the management as an agency can be evaluated.
Auditor's special comments	<ul style="list-style-type: none"> ○ It is admitted that the work is properly implemented in compliance with laws and regulations, and effective and efficient operation is being conducted in line with the mid to long-term plan and the FY plan.

*1 S: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, as a result of comprehensive consideration based on some circumstances regarding the agency's business achievements, efforts and so on through its activities, especially the creation of considerable achievements, anticipated creation of special achievements in the future and so on toward "maximization of R&D achievements" under the conditions of appropriate, effective and efficient operations are recognized.

A: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, as a result of comprehensive consideration based on some circumstances regarding the agency's business achievements, efforts and so on through its activities, the creation of considerable achievements, anticipated creation of achievements in the future and so on toward "maximization of R&D achievements" under the conditions of appropriate, effective and efficient operations are recognized.

B: Based on the National Research and Development Agency's aims, business, mid to long-term objectives and so on, as a result of comprehensive consideration based on some circumstances regarding the agency's business achievement, efforts and so on through its activities, a certain degree of expectation for the creation of achievement and creation of achievement in the future toward "maximization of R&D achievements" were recognized, and steady business operations have been also recognized.

C: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, as a result of comprehensive consideration based on some circumstances regarding the agency's business achievements, efforts and so on through its activities, the creation of achievements, further drastic efforts and improvements toward "maximization of R&D achievements" or "the appropriate, effective and efficient operations" are anticipated.

D: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, as a result of comprehensive consideration based on some circumstances regarding the agency's business achievements, efforts and so on through its activities, special efforts and improvements including a fundamental drastic review, toward "maximization of R&D achievements" or "the appropriate, effective and efficient operations" are required.

*2 Ratings up to FY 2013 were not overall rating by the Evaluation Committee for Incorporated Administrative Agency under MEXT's jurisdiction, but only rated large categories were rated in itemized evaluation. The above ratings are therefore indicated as reference for those in the previous fiscal years.

Mid to long-term objectives (Mid to long-term plan)	FY evaluation					Itemized evaluation document No.	Remarks
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017		
I. Maximization of R&D achievements and quality improvement of the other operations							
1. Promoting strategic/focused research development on a basis of national/social needs							
(1) Emergent matter science research	S	S	S	S	S	I-1-(1)	
(2) Sustainable resource science research	S	A	A	A	A	I-1-(2)	
(3) Brain science research	S	S	S	A	S	I-1-(3)	
(4) Developmental biology research	C	B	A	A	A	I-1-(4)	
(5) Life system research	A	S	S	A	A	I-1-(5)	
(6) Integrative medical science research	S	A	A	A	S	I-1-(6)	
(7) Advanced photonics research	S	S	S	A	S	I-1-(7)	
(8) Information science and technology research	-	-	-	B	B	I-1-(8)	
2. Promotion of development, sharing, and utilization research of the world's top level research base							
(1) Accelerator science research	A	A	S	A	A	I-2-(1)	
(2) Synchrotron radiation science research	A	A	A	A	A	I-2-(2)	
(3) Bio resource project	B	B	A	A	S	I-2-(3)	
(4) Life sciences technology platform research	A	A	A	A	A	I-2-(4)	
(5) Computational science and technology research	A	B	A	A	A	I-2-(5)	

Mid to long-term objectives (Mid to long-term plan)	FY evaluation					Itemized evaluation document No.	Remarks
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017		
II. Measures to be taken for achieving the objectives concerning the efficiency of the administration of the operations	A	B	B	B	B	II-1	
1. Efficiency of research resource allocation	A	B	A	B	A	II-1-(1)	
2. Efficiency of research resource							
(1) Promotion of information disclosure	A	B	B	B	B	II-2	
(2) Efforts for cost management	A	B	B	B	B	II-2	
(3) Improvement of the quality of staff	B	B	B	B	B	II-2	
(4) Energy-saving measures, facility utilization measures	A	B	B	B	B	II-2	
3. Regulation of salary levels	A	B	B	B	B	II-3	
4. Appropriateness of contract business	A	B	B	B	B	II-4	
5. Securing external funds	A	B	B	B	B	II-5	
6. Ensuring business safety	A	B	B	B	B	II-6	
III. Budget (including personnel expenses)/ income and expenditure plan, and funding plan	A	B	B	B	B	III	
IV. Limit amount of short-term borrowing	-	-	-	-	-	IV	
V. If the agency has any Unnecessary Property or any property that is expected to be Unnecessary Property, a plan for disposal of such property	A	B	B	B	B	V	
VI. If the agency intends to transfer or provide as collateral any important property other than the property provided for in the preceding item, a plan therefor;	C	B	B	B	B	VI	
VII. Purpose of using accumulated profit	-	-	B	B	B	VII	

3. Promotion of advanced integrative research by establishing a system for exhibiting the comprehensive strength of RIKEN							
(1) Creative research proposal system	A	A	B	B	A	I-3-(1)	
(2) Creation of a system to assign core researchers	A	B	B	B	B	I-3-(2)	
4. Infrastructure construction and promotion of industry-academia-government collaboration to create the results with the impact leading to innovation							
(1) Promotion of integrative collaboration with industry	A	B	A	A	A	I-4-(1)	
(2) Promoting of cross-cutting cooperation ① Biomass engineering	A	A	A	A	A	I-4-(2)-①	
(2) Promoting of cross-cutting cooperation ② Drug discovery related research	A	A	S	A	A	I-4-(2)-②	
(3) Promotion of effective intellectual property strategy leading to practical use	A	B	A	A	A	I-4-(3)	
5. Development of research environment and excellent researchers and so on							
(1) Development of vibrant open research environment	B	B	B	B	B	I-5-(1)	
(2) Development of human resources with internationally superior ability (entitled “Development of excellent researchers, etc.” until September 2016)	B	B	B	B	A	I-5-(2)	
(3) Easy-to-follow publication of R&D achievements and increase in understanding of the public on R&D activities							
① Presentation of achievements via papers and symposium and so on	A	B	A	A	A	I-5-(3)	
② Promotion of increasing understanding on R&D activities	B	B	B	B	A	I-5-(3)	
(4) Coordination and cooperation with research institutes at home and abroad	A	B	B	B	A	I-5-(4)	

VIII. Other matters concerning the administration of the operations specified by ordinance of the competent ministry							
1. Plans for equipment and facilities	A	B	B	B	B	VIII-1	
2. Plans for personnel	B	B	B	B	B	VIII-2	
3. Debt burden over the mid to long-term objective period	-	-	-	-	-	VIII-3	
4. Use of a reserve fund	A	B	-	-	-	VIII-4	

(5) Strengthening of function to provide powerful administrative and technological support for R&D activities	B	B	B	B	B	I-5-(5)	
6. Promotion of efforts to achieve appropriate business operations							
(1) Responding to national policies and social needs	A	B	B	B	A	I-6-(1)	
(2) Legal compliance, maintenance of ethics	C	B	B	B	B	I-6-(2)	
(3) Implementation and reflection of appropriate research evaluation, and so on	B	B	B	B	B	I-6-(3)	
(4) Promoting information disclosure	A	B	B	B	B	I-6-(4)	
(5) Efforts for enhancing audit function	-	B	B	B	B	I-6-(5)	

* For items that are set to “high” level of importance, a “circle” shall be marked next to each comment.
For items that are set to “high” level of difficulty, each comment shall be underlined.

* Ratings are made based on the “Standards for Evaluation of Incorporated Administrative Agencies under the Jurisdiction of the Ministry of Education, Culture, Sports, Science and Technology” (decided by the Minister of MEXT on June 30, 2015). The details are as follows:

[R&D related administrative and business operations]

S: Based on the National Research and Development Agency’s aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency’s business achievements, efforts and so on through its activities, especially the creation of considerable achievements, anticipated creation of special achievements in the future and so on toward “maximization of R&D achievements” under the conditions of appropriate, effective, and efficient operations are recognized.

A: Based on the National Research and Development Agency’s aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency’s business achievements, efforts and so on through its activities, the creation of considerable achievements, anticipated creation of achievements in the future and so on toward “maximization of R&D achievements” under the conditions of appropriate, effective, and efficient operations are recognized.

B: Based on the National Research and Development Agency’s aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency’s business achievement, efforts and so on through its activities, a certain degree of expectation for the creation of achievement and creation of achievement in the future toward “maximization of R&D achievements” were recognized, and steady business operations have been also recognized.

C: Based on the National Research and Development Agency’s aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency’s business achievements, efforts and so on through its activities, the creation of achievements, further drastic efforts and improvements toward “maximization of R&D achievements” or the “appropriate, effective, and efficient operations” are anticipated.

D: Based on the National Research and Development Agency’s aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency’s business achievements, efforts through its activities, special efforts and improvements including a fundamental drastic review, toward “maximization of R&D achievements” or the “appropriate, effective, and efficient operations” are required.

[Operations other than R&D related administrative and business operations (after II)]

S: Through the activities of a corporation, remarkable performance exceeding the intended objectives is recognized quantitatively and qualitatively in the medium-term plan (in terms of quantitative indicators, 120% or more vis-à-vis planned medium-term value (or planned FY value), and remarkable performance is also recognized qualitatively)

A: Through the activities of a corporation, remarkable performance exceeding the intended objectives is recognized in the medium-term plan (in terms of quantitative indicators, 120% or more vis-à-vis planned medium-term value (or planned FY value)).

B: Performance exceeding the intended objectives is recognized in the medium-term plan (in terms of quantitative indicators, 100% or more but less than 120% vis-à-vis planned medium-term value (or planned FY value)).

C: Performance falls below the intended objectives in the medium-term plan, requiring improved performance (in terms of quantitative indicators, 80% or more but less than 100% vis-à-vis planned medium-term value (or planned FY value)).

D: Performance falls below the intended objectives in the medium-term plan, requiring drastic improvement of business including its abolition (in terms of quantitative indicators, less than 80% vis-à-vis planned medium-term values (or planned FY value), or it is recognized that the competent Minister is required to ask for improving business operations or taking other necessary measures).

* Ratings up to FY2013 were made based on the “Basic Guidelines for Evaluation of Operational Results for Incorporated Administrative Agencies under the Jurisdiction of the Ministry of Education, Culture, Sports, Science and Technology” (decided by the Minister of MEXT on March 22, 2002).

Ratings after FY2014 are made based on the “Standards for Evaluation of Incorporated Administrative Agencies under the Jurisdiction of the Ministry of Education, Culture, Sports, Science and Technology” (decided by the Minister of MEXT on June 30, 2015). The details are as follows:

Ratings up to FY2013	Ratings after FY2014
<p>S: Outstanding achievements are fulfilled (Without providing a cross-cutting objective standard for the agency in advance, S is rated according to the characteristics of the agency's business operations.).</p> <p>A: Achievements are in line with the medium-term plan, or beyond, or are steadily being implemented toward a medium-term objective, or beyond (achievement rate for a medium-term plan should be over 100% in a given FY.).</p> <p>B: In some ways the plan is not being implemented in line with medium-term plan, however, a medium-term objective may be achieved by means of ideas and efforts (achievement rate for the medium-term plan should be 70% to 100%).</p> <p>C: The implementation of the plan is behind the medium-term objective, therefore, improvement of business is necessary in order to realize the achievement of the medium-term objective (achievement rate for the medium-term plan in a given FY is less than 70%).</p> <p>F: The Evaluation Committee needs to warn an agency concerning the improvement of its business management and others (Without providing an objective standard in advance, F is rated as a result of judgement that a warning concerning business improvement is necessary.).</p>	<p>[R&D related administrative and business operations]</p> <p>S: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency's business achievements, efforts and so on through its activities, especially the creation of considerable achievements, anticipated creation of special achievements in the future and so on toward “maximization of R&D achievements” under the conditions of appropriate, effective, and efficient operations are recognized.</p> <p>A: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency's business achievements, efforts and so on through its activities, the creation of considerable achievements, anticipated creation of achievements in the future and so on toward “maximization of R&D achievements” under the conditions of appropriate, effective, and efficient operations are recognized.</p> <p>B: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency's business achievement, efforts and so on through its activities, a certain degree of expectation for the creation of achievement and creation of achievement in the future toward “maximization of R&D achievements” were recognized, and steady business operations have been also recognized.</p> <p>C: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency's business achievements, efforts and so on through its activities, the creation of achievements, further drastic efforts and improvements toward “maximization of R&D achievements” or the “appropriate, effective, and efficient operations” are anticipated.</p> <p>D: Based on the National Research and Development Agency's aims, businesses, mid to long-term objectives and so on, and as a result of comprehensive consideration based on some circumstances regarding the agency's business achievements, efforts through its activities, special efforts and improvements including a fundamental drastic review, toward “maximization of R&D achievements” or the “appropriate, effective, and efficient operations” are required.</p> <p>[Operations other than R&D related administrative and business operations (after II)]</p> <p>S: Through the activities of a corporation, remarkable performance exceeding the intended objectives is recognized quantitatively and qualitatively in the medium-term plan (in terms of quantitative indicators, 120% or more vis-à-vis planned medium-term value (or planned FY value), and remarkable performance is also recognized qualitatively)</p> <p>A: Through the activities of a corporation, remarkable performance exceeding the intended objectives is recognized in the medium-term plan (in terms of quantitative indicators, 120% or more vis-à-vis planned medium-term value (or planned FY value).</p> <p>B: Performance exceeding the intended objectives is recognized in the medium-term plan (in terms of quantitative indicators, 100% or more but less than 120% vis-à-vis planned medium-term value (or planned FY value).</p> <p>C: Performance falls below the intended objectives in the medium-term plan, requiring improved performance (in terms of quantitative indicators, 80% or more but less than 100% vis-à-vis planned medium-term value (or planned FY value).</p> <p>D: Performance falls below the intended objectives in the medium-term plan, requiring drastic improvement of business including its abolition (in terms of quantitative indicators, less than 80% vis-à-vis planned medium-term values (or planned FY value), or it is recognized that the competent Minister is required to ask for improving business operations or taking other necessary measures).</p>