

Evaluation of FY2018 Operating Results for
National Institute for Materials Science

August 2019

Minister of Education, Culture, Sports, Science and Technology

1. Items related to the evaluation		
Agency	National Institute for Materials Science	
FY for evaluation	FY evaluation	FY2018 (4th term)
	Mid to long-term objective period	FY2016- FY2022

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	Materials Science and Nanotechnology Development Division, Hiroyoshi Kurosawa
Evaluation and inspection dept.	Science and Technology Policy Bureau	Dept. and person in charge	Planning and Evaluation Division, Masao Yokoi

3. Items regarding implementation of the evaluation
<p>July 18, 2019: The National Institute for Materials Science Sub-Committee (12th), the National Research and Development Agency Council under MEXT (hereafter referred to as the “Sub-Committee”) conducted a hearing, including opinions and explanations from the director and the auditor about the results of the Agency’s self-evaluation, and MEXT received advice in line with scientific knowledge from the committee about his evaluation.</p> <p>August 2, 2019: Sub-Committee (13th) conducted an additional hearing on the results of the Agency’s self-evaluation, and MEXT received advice with the scientific knowledge from the committee about his evaluation.</p> <p>August 6, 2019: In the general meeting of the National Research and Development Agency Council under MEXT (15th) conducted a hearing, and MEXT received advice in line with scientific knowledge from the council about his evaluation.</p>

4. Important items and others relating to the evaluation
<p>March 1, 2018 4th Term Mid to Long-term Period Objectives</p> <p>March 1, 2019 4th Term Revision of Mid to Long-term Period Objectives</p> <p>March 29, 2019 4th Term Revision of Mid to Long-term Objective Period Plan</p> <p>In response to the indications in the Report “Status at the Main Ministry and Incorporated Administrative Agencies regarding the Review of Regulations after a Reform of Incorporated Administrative Agencies”, which is based on the rules under Article 30-2 of the Board of Audit Act, we performed an evaluation by “Group of Selected Businesses” that is set forth in a mid to long-term objectives concerning “I. Section on Maximization of R&D Achievements and Improvements in the Quality of Other Businesses”.</p>

1. Overall evaluation								
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						
		FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
		B	A	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 achievementsefforts 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
<ul style="list-style-type: none"> • As one of the designated national research and development agencies, we value that <u>the agency's top management and its function as a materials research center were reinforced, its research themes were selected more carefully, and a bottom-up model-based research activities were promoted, among other measures, to diversify its activities.</u> In particular, <u>one achievement of operations is the steady development of new activities including the M-cube business and materials informatics business.</u> • The policy on R&D will continue to be disseminated at the agency in even clearer form, and by combining this with a bottom-up model topics proposal based on a strategic promotion of R&D activities and free thinking, <u>we hope to promote development of innovative materials strongly, leading to innovations in society.</u> • <u>Proposals and establishment of a collaborative platform for industry and academia, a clearly defined policy on research, a system and facilities that are in line with the goals and ideas of the whole agency, and proactive activities to achieve budget, and implementation of human resource development strategies, and so on, have worked in fiscal 2017 to fiscal 2018, and we are steadily building concrete achievements, which are big pluses.</u> • There is a clear reform in the organization management at the whole agency, and <u>we hope to work now on research motivation and compliance mindset of our researchers in creative ways.</u>

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"> • Organization management method that has been upgraded in view of the goals of our traditional platform and engagement and creativity that are employed to achieve budget through innovative project proposals are excellent examples of proactive corporate management. • Communication of research achievements to the general public via YouTube is received as an effective activity. In moving forwards our research, we believe that to widen our group of concerned parties and to include the general public in our public relations activities and make efforts in this regard is effective to move developments forward. • We believe that we look at how our research area is received from both aspects, ie, research achievements and research area management, and we wish to review their ratio. Furthermore, we expect to indicate the targets and promotion plan for the operation of our research areas. • With an understanding of complex diplomacy over today's innovative technologies, we expect to start soon the discussions on how our whole organization can engage on topics which include resolving the trade-off's between international cooperation and technologies leaving our country, ensuring data security which is growing in importance, and clarifying the roles taken by high-functioning materials and substances in an advance ICT society.
Auditor's special comments	<ul style="list-style-type: none"> • The business operations of the Agency are being appropriately implemented in compliance with laws and regulations, and effectively and efficiently toward achieving mid to long-term objectives without fail. • The business report correctly shows the status of the Agency, and the statement of account and financial statements prepared in accordance with the budget classification appropriately displaying the status of its assets, and profit and loss statements. • The Agency's efforts for addressing matters stipulated in the past cabinet decisions, such as basic policies concerning the reform of incorporated administrative agencies are recognized as reasonable.

* Evaluation categories are as follows:

- S: Based on the National Research and Development Agency's aims, businesses with mid to long-term objectives due to comprehensive consideration based on some circumstances regarding the agency's business achievements, and efforts 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 with mid to long-term objectives due to comprehensive consideration based on some circumstances regarding the agency's business achievements, and efforts 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.
- B: Based on the National Research and Development Agency's aims, business with mid to long-term objectives due to comprehensive consideration based on some circumstances regarding the agency's business achievement, and efforts 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 with mid to long-term objectives due to comprehensive consideration based on some circumstances regarding the agency's business achievements, and efforts through its activities, the creation of achievements, further drastic efforts and improvements toward "maximization of R&D achievements" or "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.

Mid to long-term objectives (Mid to long-term plan)	FY evaluation							Itemized evaluation document No.	Remarks
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022		
I. Measures to be taken for achieving the objectives concerning maximization of R&D achievements and quality improvement of other operations	-	-	-	-	-	-	-		
1. Basic research and fundamental R&D of materials science technology	-	-	A	-	-	-	-	I - 1	
1.1 Basic research and fundamental R&D of focused research area	-	-	-	-	-	-	-		
1.1.1 R&D in the field of functional materials	B	B	a	-	-	-	-		
1.1.2 R&D in the field of energy and environmental materials	A	A	a	-	-	-	-		
1.1.3 R&D in the field of magnetic and spintronics materials	A	S	s	-	-	-	-		
1.1.4 R&D in the field of structural materials	B	A	a	-	-	-	-		
1.1.5 R&D in the field of nanomaterials	A	A	a	-	-	-	-		
1.1.6 R&D in the field of advanced material analysis technology	A	A	a	-	-	-	-		
1.1.7 R&D in the field of information integration type materials science	B	B	b	-	-	-	-		

Mid to long-term objectives (Mid to long-term plan)	FY evaluation							Itemized evaluation document No.	Remarks
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022		
II. Measures to be taken for achieving the objectives concerning the efficiency of the administration of the operations	-	-	B	-	-	-	-	II	
1. Basic policy on research organization and business operations	B	B	a	-	-	-	-		
2. Basic policy for business operation	-	-	-	-	-	-	-		
(1) Enhancement and reinforcement of internal control	B	B	b	-	-	-	-		
(2) Utilization of third-party evaluation/advice concerning the agency's business operation and so on	B	B	b	-	-	-	-		
(3) Effective evaluation of business performance of staff	B	B	a	-	-	-	-		
(4) Efficiency of the overall operations	-	-	-	-	-	-	-		
① Streamlining and efficiency of operational expenses	B	B	b	-	-	-	-		
② Streamlining and efficiency of personnel expenses	B	B	b	-	-	-	-		
③ Appropriateness of contract	B	B	b	-	-	-	-		

2. Promotion of transmission and utilization of research achievement 3. Activity as a core institute	-	-	A	-	-	-	-	I - 2、3	
2.1 PR and outreach activity and information use	-	-	-	-	-	-	-		
2.1.1 Promotion of PR and outreach activity	S	S	s	-	-	-	-		
2.1.2 Transfer of information on research achievement	B	B	b	-	-	-	-		
2.2 Promotion of use of intellectual properties	B	B	a	-	-	-	-		
3.1 Shared use of facilities and equipment	A	A	a	-	-	-	-		
3.2 Development and quality improvement of researchers and engineers	B	A	a	-	-	-	-		
3.3 Establishment of academic collaboration on materials science	B	B	b	-	-	-	-		
3.4 Establishment of collaboration with industry in materials science	A	A	s	-	-	-	-		
3.5 Analysis, strategic planning and information transfer for	B	A	a	-	-	-	-		

④ Review of holdings	B	B	b	-	-	-	-		
(5) Other efforts relating to the administration of the operations	B	B	b	-	-	-	-		
III. Measures to be taken for achieving the objectives concerning improvement of financial contents	-	-	B	-	-	-	-	III	
1. Budget (Including personnel expenses)/ income and expenditure plan, and funding plan	B	B	b	-	-	-	-		
2. Limit amount of short-term borrowing	-	-	-	-	-	-	-		
3. If the agency has any unnecessary property or any property that is expected to be unnecessary property, a plan for disposal of such property	-	-	-	-	-	-	-		
4. 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;	-	-	-	-	-	-	-		
5. Purpose of using accumulated profit	B	B	b	-	-	-	-		
IV. Other matters concerning the administration of the operations specified by ordinance of the competent ministry	-	-	B	-	-	-	-	IV	
1. Plans for equipment and facilities	B	B	b	-	-	-	-		

materials science research									
3.6 Other activities as a core institution	B	A	a	-	-	-	-		

2. Plans for personnel	B	B	b	-	-	-	-		
3. Debt burden over the mid to long-term objective period	-	-	-	-	-	-	-		
4. Use of a reserve fund	B	B	b	-	-	-	-		

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

*2 For items that are set to “high” level of difficulty, each comment shall be underlined.

*3 For items that were selected for reinforcement shall be marked with “Target” next to each criterion.

*4 In the “Itemized Evaluation Document No” column, the itemized document no in the itemized evaluation document for fiscal 2018 shall be entered.

*5 Evaluation categories are as follows:

[Administrative and projects related to research and development (I)]

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 “maximizing the achievements 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.

[Other than administrative work and projects regarding research and development (After II)]

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

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

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

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

D: Performance falls below the intended objectives in the mid to long-term objectives, requiring drastic improvement of business including its abolishment (in terms of quantitative indicators, less than 80% vis-à-vis the planned mid

to long-term values (or values on prior fiscal year), or it is recognized that the competent Minister is required to make an order for improving business operation or taking other necessary measures).

The following grades are to be assigned when one is forced to raise an evaluation based on qualitative indicators such as evaluation of internal controls, and when operations performance is difficult to measure such as when meeting certain conditions is set as the target.

S:—

A: The agency reached the target level, for targets whose difficulty grade were set high.

B: The agency reached the target level(This excludes items that correspond to “A”).

C: The agency couldn't reach the target level(This excludes items that corresponding to “D”).

D: A fundamental review of operations is needed because the agency couldn't reach the target level, and this includes when the Minister in charge finds that the Minister needs to order improvements in operations management and order other necessary actions.