

Japan Credit Rating Agency, Ltd. (JCR) announces the following credit ratings.

## Electricité de France S.A. (security code: -)

<Affirmation>

Foreign Currency Long-term Issuer Rating:	AA
Outlook:	Stable
Bonds:	AA

### Rationale

- (1) Electricité de France S.A. (EDF) is the world's leading electricity company engaged in power generation, transmission, distribution and retailing mainly in France and other major European countries. The ratings primarily reflect its solid relationship with the French government and strong support provided by the government as an entity that assumes a core role in the country's energy policy, its solid business base in France and its commitment to contain its net debt. On the other hand, the ratings remain constrained mainly by business risks involved in its overseas operations and the continued high level of its capital investment. The outlook of the ratings is Stable. EDF's earnings performance and financial structure marginally deteriorated in 2020 as a sharp fall of power generation caused by the COVID-19 pandemic was partially offset by a markup of electricity prices. Both its earnings performance and financial structure are expected to improve on an increased power demand to be brought by normalization of economic activities and higher electricity prices. Nonetheless, the recovery pace is likely to be moderate given the prospective continuation of massive investment. EDF's organizational changes including a review of its capital relationship with the government are being planned in preparation for a future expansion of investment. Present plans call for splitting EDF mainly into a nuclear power business and a renewable energy/transmission business while retaining the government's majority equity stake in the nuclear power business on the assumption of a review of ARENH, its system to sell electricity to competitors at a fixed price. JCR believes that EDF will continue to retain its strong relations with the government and play a core role in the country's energy policy. With the presidential election slated for the spring of 2022, however, it will be difficult to implement the plans for the time being. JCR will watch future developments.
- (2) The French government remains EDF's largest shareholder (with an equity stake of 83.6% as of the end of 2020), with the law obliging it to keep its stake higher than 70%. Out of its 18 board members, 11 are appointed by the shareholders' meeting which is virtually under government control, with another one representing the government. The government has track records of accepting capital increases and script dividends. The Macron administration is committed to attaining carbon neutral by 2050 by increasing the ratio of renewable energy to total electricity generation to 40% by 2030 and reducing the ratio of nuclear power to 50% by 2035. Under the program, following the decision to shut down two nuclear reactors, another 12 are to be shut down by 2035 subject to certain conditions. It envisages doubling the renewable energy generation capacity. JCR holds that EDF will play a key role in the country's energy policy since its stable supply of nuclear power by new construction and the extended lifetime of nuclear reactors will be inevitable to attain the targets of the program. Under its business plan (CAP 2030), EDF will focus its efforts on helping customers achieve carbon neutral through energy shift and cementing its leading position as a low carbon-emitting power generator.
- (3) EDF supplies around 80% of France's electricity output mainly from its 56 low-carbon nuclear reactors, monopolizes the transmission and distribution market, and remains the largest retail power provider. Its total installed generation capacities stood at 120.5 GW at the end of 2020. Nuclear power accounted for 59% of the total, followed by hydro power/other renewable energies with 25% and thermal power with 16%. Power generation, distribution and retailing in France were its core business, accounting for around 60% of total sales and close to 80% of total EBITDA in 2020 (transmission is undertaken by its equity method subsidiary). Transmission and distribution are regulated business undertaken by its subsidiaries. It retains the largest market shares in generation, transmission, distribution and retail, although its share in retail is declining due mainly to a partial abolition of the regulated tariffs for corporate customers. Outside France, EDF also

does business through its subsidiaries mainly in the UK, Italy and Belgium. It has been constructing one European Pressure Reactor in France and two in the UK through a joint venture with China General Nuclear Power Corporation. These projects under construction involve business risks. Since JCR's previous rating review, the construction costs of both projects have been revised upward slightly due mainly to the impact of the pandemic. However, JCR considers that the costs are still manageable.

- (4) EDF's group EBITDA declined only by a moderate 3% in 2020. Despite the sharp fall of power generation on the effect of the pandemic and extended outages of nuclear powers reactors, increased electricity prices contributed to easing the sharp fall. Its financial structure (in terms of applied accounting) also deteriorated only slightly as the net debt to EBITDA ratio rose to 2.6 at the end of 2020 from 2.5 a year earlier. The net D/E ratio also edged up from 0.7 to 0.8. In the first half of 2021, total sales and EBITDA grew strongly by 14% and 30% year-on-year, respectively, on a significant increase of power output brought by normalized economic activities and a markup of electricity prices. The improving business climate prompted EDF to revise its 2021 forecast of nuclear power output in France upward to 345-365TWh in July from an initial 330-360TWh while keeping its 2022 output estimate intact at 330-360TWh. Barring a prolonged outage of nuclear reactors, both its earnings performance and financial structure may continue to recover in keeping with the normalization of economic activities. Nonetheless, JCR holds that the recovery may inevitably be moderate as EDF needs to continue heavy capital investment to cover maintenance costs stemming from the extended lifetime of its nuclear reactors, the planned expansion of its renewable energy capacities and the construction of new nuclear reactors.

Toshihiko Naito, Haruna Saeki

### Rating

Issuer: Electricité de France S.A.

#### <Affirmation>

Foreign Currency Long-Term Issuer Rating: AA      Outlook: Stable

Issue	Amount (bn)	Issue Date	Due Date	Coupon	Rating
Japanese Yen Bonds – 4th Series (2017)	JPY 107.9	Jan. 26, 2017	Jan. 26, 2027	1.088%	AA
Japanese Yen Bonds – 5th Series (2017)	JPY 3.1	Jan. 26, 2017	Jan. 26, 2037	1.870%	AA
Japanese Yen Bonds – 1st Series (2017) (Green Bonds)	JPY 19.6	Jan. 26, 2017	Jan. 26, 2029	1.278%	AA
Japanese Yen Bonds – 2nd Series (2017) (Green Bonds)	JPY 6.4	Jan. 26, 2017	Jan. 26, 2032	1.569%	AA

Rating Assignment Date: August 31, 2021

The assumptions for the credit ratings and the definitions of the rating symbols are published as "Types of Credit Ratings and Definitions of Rating Symbols" (January 6, 2014) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

Outline of the rating methodology is shown as "Sovereign and Public Sector Entities" (November 7, 2014) and "Electric Power" (May 29, 2020) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

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JCR publishes its press releases regarding the rating actions both in Japanese and in English on the same day. In case that it takes time to translate rating rationale, JCR may publicize the summary version, which will be replaced by the full translated version within three business days. (Regarding Structured Finance products, JCR only publicize the summary version in English.)

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## Information Disclosure Form

Japan Credit Rating Agency, Ltd.

## Disclosure Required by Paragraph (a)(1)(ii) of Rule 17g-7

Issuer:	Electricité de France S.A.
Rating Publication Date:	September 2, 2021

**1** The Symbol, Number, or Score in the Rating Scale used to Denote Credit Rating Categories and Notches and, the Identity of the Obligor or the Identity and a Description of the Security or Money Market Instrument as Required by Paragraph (a)(1)(ii)(A) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

**2** The version of the procedure or methodology used to determine the credit rating; as Required by Paragraph (a)(1)(ii)(B) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

**3** The Main Assumptions and Principles used in Constructing the Procedures and Methodologies used to Determine the Credit Rating as Required by Paragraph (a)(1)(ii)(C) of Rule 17g-7

- The credit rating methodology assumes, in principle, to be applied to assess the likelihood of a given debt payment in light of its issuer's condition and business environment, etc. in the relevant future. There is certain limitation, however, in the time horizon that the rating foresees.
- The credit rating methodology assumes, in principle, that the factors posted in the below are particularly important for such likelihood to be determined, and that the rating determination is made by evaluating each of them not only quantitatively but also employing qualitative analyses.

**A) Legal Protection and Support Provided by the Government**

The likelihood of a given debt payment is highly conditional to the issuer's legal protection provided by the government, personnel and capital relationship with the government, importance in the government's policy, credit enhancement, and other forms of the government's supporting policy, framework and the strength thereof.

**B) Business Bases**

The likelihood of a given debt payment is highly conditional to its issuer's business bases - how they can be maintained/ expanded into the future and thereby secure earnings and cash flows in adequacy and in a sustainable way.

## C) Financial Grounds and Asset Quality

The likelihood of debt payment is highly dependent on the degree of the issuer's indebtedness and loss absorption capacity in terms of equity capital. Also notable is that a financial institution might see a significant loss of financial grounds as a result of changes in value of the assets under its possession.

## D) Liquidity Positions

The likelihood of debt payment is highly dependent on the adequacy of the issuer's cash and other sources of repayment (liquidity positions).

## E) Order of Seniority in Debt Payment

The likelihood of debt payment can be different between given debts of the same issuer. The likelihood of debt payment for an individual debt is dependent on the issuer's discretion, and/ or its rank relative to other debts of the same issuer in the order of seniority in principal/ interest payment which is determined by design as financial product or by laws, etc.

## 4 The Potential Limitations of the Credit Rating as Required by Paragraph (a)(1)(ii)(D) of Rule 17g-7

- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- The objective of the credit rating herewith presented does not include any concerns other than the likelihood of debt payment, such as risks of price changes, market liquidity, etc.
- The credit rating herewith presented is necessary to be reviewed along with possible changes of the issuer of rated objects in its business performance and/ or circumstances which include regulatory environment, and hence subject to possible alteration.

## 5 Information on the Uncertainty of the Credit Rating as Required by Paragraph (a)(1)(ii)(E) of Rule 17g-7

- The information used for the determination of credit rating as herewith presented is obtained by JCR from the issuer of rated objects and other sources that JCR trusts in terms of accuracy and reliability but possibly contains errors due to human, non-human or other causes. Consequently, the credit rating determined on the grounds of such information does not constitute, explicitly or implicitly, any representation or warrant of JCR on the information itself or any consequences of its use in terms of accuracy, relevance, timeliness, wholeness, market value, or usefulness for any specific purposes.

## 6 Use of Due Diligence Services of a Third Party in Taking the Rating Action as Required by Paragraph (a)(1)(ii)(F) of Rule 17g-7

- There is no use of any third-party due diligence service in the determination of the credit rating herewith presented.

## 7 Use of Servicer or Remittance Reports to Conduct Surveillance of the Credit Rating Required by Paragraph (a)(1)(ii)(G) of Rule 17g-7

- There is no use of any servicer or remittance report to conduct surveillance of the credit rating herewith presented.

## 8 The Types of Data Relied Upon for the Purpose of Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(H) of Rule 17g-7

- The information posted in the below, which includes data, is used for the determination of the credit rating herewith presented.

A) Audited financial statements presented by the rating stakeholders

B) Explanations of business performance, management plans, etc. presented by the rating stakeholders

## 9 Overall assessment of the Quality of Information Available and Considered in Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(I) of Rule 17g-7

- JCR holds its basic policies for securing the quality of information as a base of due diligence for the determination of credit ratings. The information used as a base for the determination of credit rating herewith presented satisfies such policies, which include the audit by an independent auditor, the publication by the issuer, some independent media or, otherwise, JCR analyst's scrutiny, etc.
- JCR sees no particular weakness in the quality of information used for the determination of the credit rating herewith presented as compared to the information used in other cases of the credit rating for comparable issuers or ratable objects.
- If the credit rating is an Indication, please see the report for Indication.

## 10 Information Relating to Conflicts of Interest as Required by Paragraph (a)(1)(ii)(J) of Rule 17g-7

- JCR receives payment of compensation for the determination of the credit rating herewith presented from either one of those parties who are issuer, underwriter, depositor or sponsor.
- JCR did not receive in the last fiscal year in the past payment of compensation from the same party for any kind of JCR's service other than the determination of public or private credit rating, such as one in the ancillary business.

## 11 Explanation or Measure of the Potential Volatility of the Credit Rating as Required by Paragraph (a)(1)(ii)(K) of Rule 17g-7

### A) Legal Protection and Support Provided by the Government

The credit rating is subject to alteration if there is a change in the issuer's legal support by the government, personnel or capital relationship with the government, importance in the government's policy, credit enhancement and other forms of the government's supporting policy, framework and the strength thereof. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is large.

### B) Business Bases

The credit rating is subject to alteration if there is improvement or deterioration of the issuer's business bases, since its revenue, etc. may improve or deteriorate by the change in its business management policies, clients' preferences, competitive situation, or a technological innovation. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the business bases is large.

### C) Financial Grounds and Asset Quality

The credit rating is subject to alteration if the issuer increases/ decreases its debt/ capital or vice versa and thereby makes its individual debt payment liability less or more bearable and its loss absorption capacity into the future decreased or increased. Also, the changes in the quality of asset under the issuer's holding may affect the credit rating, since such changes could raise or lower the likelihood of

future loss of the issuer's financial grounds. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the financial grounds and/ or asset quality is large.

D) Liquidity Positions

The credit rating is subject to alteration if there is a change in the issuer's financial management policy or in the relations with fund procurement sources and the change thereby makes its liquidity positions improve or deteriorate. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is large.

E) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract

The credit rating is subject to alteration if there is a change in the rated debt's status in the order of seniority relative to other debts caused by the improvement/ deterioration of the issuer's financial condition. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large. Also, in case of the financial products for which non-payment of interest/ principal is contractually permissible, the credit rating is subject to alteration if and when the likelihood of such non-payment is projected to increase or decrease. The resultant alteration of the credit rating could be by a notch but often as much as a few notches.

F) Creditworthiness of the Government, etc. that Constitute the Framework of Credit Enhancement

The credit rating is subject to alteration if there is a change in the creditworthiness of the government, etc. that constitute the framework of credit enhancement. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change on such framework is exceptionally large.

G) Rise and Fall in General Economy and Markets

The credit rating is subject to alteration if there is a rise/ fall in the general economy and/ or the markets inducing the issuer's revenues/ expenses to increase/ decrease and vice versa, etc. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is exceptionally large.

H) Various Events

The credit rating is subject to alteration on occurrence of various events, such as change in the issuer's major shareholders, M&A and other organizational change, accident, violation of the law, litigation, legal/ regulatory change, natural disaster, etc., which are unforeseeable at the time when the credit rating is determined, causing a significant change on the issuer's business bases, financial grounds, etc. The resultant alteration of the credit rating could be by a notch but more often than not as much as a few notches.

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Information on the Content of the Credit Rating, Including the Historical Performance of the Credit Rating and the Expected Probability of Default and the Expected Loss in the Event of Default as Required by Paragraph (a)(1)(ii)(L) of Rule 17g-7

- Historical records of the credit rating herewith presented are posted in the end of this paper.
- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- Facts of the probability of default are posted as Form NRSRO Exhibit 1 on the JCR website under the URL:

<https://www.jcr.co.jp/en/service/company/regu/nrsro/>

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Information on the Sensitivity of the Credit Rating to Assumptions Made as Required by Paragraph (a)(1)(ii)(M) of Rule 17g-7

A) Legal Protection and Government Support

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's legal protection provided by the government, personnel and capital relationship with the government, importance in the government's policy, credit enhancement and other forms of the government's supporting policy,



framework and the strength thereof. The resultant change of the credit rating is most likely by one notch, as JCR stipulates, but possibly as much as a few notches if the change in the government's supporting policy is significant.

B) Business Bases

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's business bases and powers of earning or cash flow generation, etc. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's business bases on some drastic change in the operational environments, etc.

C) Financial Grounds and Asset Quality

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's financial grounds and asset quality. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's financial grounds and/ or asset quality on some drastic change in its business bases.

D) Liquidity Risks

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's liquidity positions. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's liquidity positions on some drastic change in its financial management policy or relations with fund procurement sources, etc.

E) Creditworthiness of the Government, etc. that Constitute the Framework of Credit Enhancement

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the creditworthiness of the government, etc. that constitute the framework of credit enhancement. JCR assumes the resultant change of the credit rating is most likely by a notch. The change could be as much as a few notches should the creditworthiness of said government, etc. change so greatly.

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Information on the Representations, Warranties, and Enforcement Mechanisms of an Asset-backed Security as Required by Paragraph (a)(1)(ii)(N) of rule 17g-7

- The credit rating herewith presented is not for an ABS product, and hence no relevant issue.

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## The Historical Performance of the Credit Rating

Issuer Name	Issue Name	Publication Date	Rating	Outlook/Direction
Electricite de France S.A.	Issuer(Long-term)(FC)	June 9, 2009	AA+	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	August 11, 2010	AA+	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	March 7, 2012	AA+	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	January 31, 2013	AA+	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	July 24, 2013	AA+	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	September 4, 2014	AA+	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	October 30, 2015	AA+	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	October 13, 2016	AA	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	September 1, 2017	AA	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	August 31, 2018	AA	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	September 13, 2019	AA	Stable
Electricite de France S.A.	Issuer(Long-term)(FC)	September 1, 2020	AA	Stable
Electricite de France S.A.	Japanese Yen Bonds 4th Series	January 20, 2017	AA	
Electricite de France S.A.	Japanese Yen Bonds 4th Series	September 1, 2017	AA	
Electricite de France S.A.	Japanese Yen Bonds 4th Series	August 31, 2018	AA	
Electricite de France S.A.	Japanese Yen Bonds 4th Series	September 13, 2019	AA	
Electricite de France S.A.	Japanese Yen Bonds 4th Series	September 1, 2020	AA	
Electricite de France S.A.	Japanese Yen Bonds 1st Series	January 20, 2017	AA	
Electricite de France S.A.	Japanese Yen Bonds 1st Series	September 1, 2017	AA	
Electricite de France S.A.	Japanese Yen Bonds 1st Series	August 31, 2018	AA	
Electricite de France S.A.	Japanese Yen Bonds 1st Series	September 13, 2019	AA	
Electricite de France S.A.	Japanese Yen Bonds 1st Series	September 1, 2020	AA	
Electricite de France S.A.	Japanese Yen Bonds 5th Series	January 20, 2017	AA	
Electricite de France S.A.	Japanese Yen Bonds 5th Series	September 1, 2017	AA	
Electricite de France S.A.	Japanese Yen Bonds 5th Series	August 31, 2018	AA	
Electricite de France S.A.	Japanese Yen Bonds 5th Series	September 13, 2019	AA	
Electricite de France S.A.	Japanese Yen Bonds 5th Series	September 1, 2020	AA	
Electricite de France S.A.	Japanese Yen Bonds 2nd Series (2017)	January 20, 2017	AA	
Electricite de France S.A.	Japanese Yen Bonds 2nd Series (2017)	September 1, 2017	AA	
Electricite de France S.A.	Japanese Yen Bonds 2nd Series (2017)	August 31, 2018	AA	
Electricite de France S.A.	Japanese Yen Bonds 2nd Series (2017)	September 13, 2019	AA	
Electricite de France S.A.	Japanese Yen Bonds 2nd Series (2017)	September 1, 2020	AA	



## Attestation Required by Paragraph (a)(1)(iii) of Rule 17g-7

I, Toshihiko Naito, have responsibility to this Rating Action and to the best of my knowledge:

- A) No part of the credit rating was influenced by any other business activities.
- B) The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated.
- C) The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.



Toshihiko Naito  
General Manager of International Rating Department

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