

**PRIMARY FREQUENCY CONTROL
SERVICE AGREEMENT**

BETWEEN

**TEIAS
TURKISH ELECTRICITY TRANSMISSION CO. INC.**

AND

DATED/....../.....

**ANKARA
..... 2009**

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Herein the Primary Frequency Control Service Agreement (“Agreement”) was concluded between Turkish Electricity Transmission Company (hereafter will be called as “TEIAS”) and (.....) Generation Company (hereafter will be called as “Generator”) in accordance with the Law no. 4628, Electricity Market Grid Code and Electricity Market Ancillary Services Regulation.

1. SCOPE

The scope of the Agreement consists of primary frequency control service provided by the Generator to TEIAS within the scope of Electricity Market Ancillary Services Regulation, within the frame of below mentioned principals until the end of the Agreement. According to this;

Generator will continuously provide primary frequency control reserve amount that will meet frequency control obligation determined within the scope of Electricity Market Ancillary Services Regulation and this Agreement, from;

- (a) generation facilities that take place within the scope of this Agreement and/or
- (b) other licensed legal entity providing primary frequency control service through the transfer of obligation method as it is defined in Electricity Market Ancillary Services Regulation.

According to the provisions of this Agreement, price that will be paid by TEIAS in return of primary frequency control service provided by the Generator is calculated according to the formulation defined by Electricity Market Ancillary Services Regulation upon the primary frequency control service unit cost that is calculated by TEIAS in line with the Electricity Market Ancillary Service Regulation and takes effect with the approval of the Board.

2. DEFINITIONS

For the purposes of this Agreement, the following terms shall bear the following meanings:

- 1- **Law:** Electricity Market Law no. 4628
- 2- **Regional Load Dispatch Center (RLDC):** The control centre within the body of TEIAS that monitors generation, transmission and consumption activities, and that is responsible for the coordination and management of the operating maneuvers regarding a specific region in the transmission system,
- 3- **Outage:** Automatic or manual outage of a part of the plant and/or equipment due to maintenance, repair or fault,
- 4- **DGS:** Daily generation schedule notified to System Operator as required by the Electricity Market Balancing and Settlement Regulation or final day ahead generation/consumption schedule submitted as part of Balancing Power Market,
- 5- **Relevant Legislation:** Laws, regulations, communiqués, circulars and Board decisions regarding electricity market and licenses of the related legal entities,

- 6- **Legislation:** Whole Turkish Republic Legislation including but not limited to Law, Bylaw, Regulation, Government Ministry or Supreme Board Decisions, administrative processes or operations, the licenses acquired by the Parties,
- 7- **National Load Dispatch Center (NLDC):** The unit under the body of TEIAS in charge of real-time balancing of electricity demand and supply and system operation,
- 8- **Party:** TEIAS or Generator,
- 9- **Parties:** TEIAS and Generator,
- 10- **Technical Commission:** Commission that is established with the participation of four engineers two of which from TEIAS and the other two are from Generator for the survey and assessment of the loss of TEIAS in case Generator does not fulfil and/or violate its obligation,
- 11- **TURKAK:** Turkish Accreditation Agency,
- 12- **UCTE:** Union for the Co-ordination of Transmission of Electricity,
- 13- **Generator:** Legal entities engaged in generation activity and TETAS.

All terms that are not defined in this article of the Agreement have meanings that are defined within the scope of the relevant Legislation.

3. OBLIGATIONS OF THE PARTIES

3.1. Competency to Provide Primary Frequency Control Service

Within the frame of the provisions and conditions indicated in Electricity Market Grid Code and this Agreement, all unit/units of Generator that takes place in the scope of Appendix 2 and Appendix 3 will be competent to provide primary frequency control service as indicated in Electricity Market Grid Code, except the times when they were out of service.

TEIAS is authorized to test and make someone do test to question whether generation facilities are providing service pursuant to Electricity Market Grid Code and whether they have the competence of providing services subject to Agreement;

- (a) prior to completion of the procedures regarding provisional acceptance,
- (b) prior to signature of primary frequency control service agreement and/or inclusion of a new generation facility in the scope of Agreement,
- (c) within the periods indicated in the Article 5 of this Agreement,
- (d) when it is determined, as a result of monitoring or controls carried out by TEIAS, that a facility providing primary frequency control service does not provide the service as required.

3.2. Obligation of Primary Frequency Control Service Provision

Primary frequency control reserve amount that the Generator is obliged to supply is calculated as indicated in the Electricity Market Ancillary Services Regulation.

Generator is obliged to provide continuously primary frequency control reserve amount that will meet the primary frequency control obligation determined within the scope of this Agreement through;

- (a) generation facilities that take place within the scope of this Agreement and/or
- (b) other licensed legal entities providing primary frequency control service through the transfer of obligation as indicated in the Electricity Market Ancillary Services Regulation.

Generation facilities that are obliged to participate in primary frequency control according to Electricity Market Ancillary Services Regulation and that are licensed under the name of the Generator, installed capacities of these facilities, and total primary frequency control reserve amount that should be provided by Generator are indicated in Appendix-1.

3.3. Provision of Primary Frequency Control Service

In case of deviation in the system frequency, Generator will contribute to process of balancing the system frequency at a new value as per the provisions of this Agreement, within the scope of primary frequency control obligation by using primary frequency control reserve amount determined directly proportional to the frequency deviation and notified to System Operator in accordance with the provisions of Electricity Market Ancillary Services Regulation and Electricity Market Grid Code. Generator is responsible for making necessary arrangements in the control system to provide notified primary frequency control reserve amount. Covenant regarding that primary frequency control reserve amount will be provided by the Generator takes place in the Appendix 6.

4. DEFINITION OF THE SERVICE, ITS SPECIFICATIONS AND PROVISION PROCESS

4.1. Definition of the Primary Frequency Control Service and Its Specifications

The definition and characteristics of the Primary Frequency Control Service are as indicated in the Electricity Market Grid Code.

All the parameters regarding this Agreement are determined and implemented in accordance with Electricity Market Grid Code and relevant legislation. TEIAS reserves the right to amend parameters within the scope of this Agreement in parallel with the amendments that will be made in the Electricity Market Grid Code and the relevant legislation to meet UCTE criterion and to guarantee the safety and high quality of the operation of Turkish Electricity Grid

Generator will provide Primary Frequency Control service within the operation interval of the units as part of Electricity Market Grid Code. Operation interval of the units is indicated in the Appendix 2 of this Agreement.

All the settings regarding the units and speed droop of speed regulator, dead band and other settings will be recorded by the Parties within the scope of Appendix 2 of this Agreement. Unless otherwise is stated, Generator will not change the values that are recorded within the primary frequency control service obligation through out the period when the service is provided.

Generator will provide the information in the Appendix 2 and Appendix 3 on the basis of unit providing primary frequency control service for each generation facility that is within the scope of this Agreement and indicated in the Appendix 1. Minimum and maximum primary frequency control reserve capacities and total primary frequency reserve amount that Generator is obliged to provide are mentioned in Appendix 1 and Appendix 3 in MW terms and have one per cent sensitivity.

4.2. Operating Principles Regarding Primary Frequency Control

Primary Frequency Operating Principals are as indicated in the Electricity Market Grid Code.

4.3. Process Regarding the Provision of Primary Frequency Control Service

Generator will notify System Operator, every day until the end of DGS notification period indicated in the Electricity Market Balancing and Settlement Regulation through MMS, on primary frequency control reserve amount in 1 MW term and its folds that will be provided from each of the generation facility within the scope of this Agreement regarding the following day.

In case Generator wants to transfer its obligation to another generator who provides primary frequency control service, notification regarding the transfer of obligation is made to System Operator through MMS until the end of primary frequency reserve amount notification period, in line with the provisions of Electricity Market Ancillary Services Regulation regarding the transfer of primary frequency control obligation. Generator should only transfer the primary frequency control service obligation to another supplier who has primary frequency control service agreement to provide primary frequency control service.

The sum regarding the primary frequency control reserve amount that Generator notified for each hour of each day that will be provided by the generation facilities that are within the scope of primary frequency control service agreement and the primary frequency control amount emerging regarding the transfer of obligation shall be at the level to meet the primary frequency control obligation of the Generator determined within the scope of this Agreement for each hour of the related day.

Non zero primary frequency reserve amount that Generator notified for each hour of the day to provide through generation facilities that are within the scope of primary frequency control service agreement shall be within the limits of primary frequency control reserve capacities, of the related facility, indicated in the Appendix 3 of this Agreement.

Generator determines primary frequency control reserve amount by excluding from DGS which is valid for related hour of the related day. Sum of DGS value notified for a generation facility, and primary frequency control reserve amount shall not exceed total available capacity of the generation facility regarding the related hour. Primary frequency control reserve amount notifications that are made to System Operator shall be realizable within the frame of predictable conditions.

Everyday, System Operator controls notifications made by the Generator within the period indicated in the Electricity Market Ancillary Services Regulation and controls whether notifications are violating the system constraints, whether they are within the limits of minimum and maximum primary frequency control reserve capacities that take place in this Agreement and whether obligations of the Generator are fulfilled. System Operator communicates with the related generation facility regarding the improper notifications and gives time as much as it is indicated in the Electricity Market Ancillary Services Regulation to make necessary corrections.

Within the frame of the provisions of this Agreement, Generator provides primary frequency control service within the limits of primary frequency control reserve capacity of the related facility in line with the instruction given by the System Operator. In case of need, System Operator may request from the Generator to provide primary frequency control service other than its obligations. When it is requested by System Operator, the reserve regarding primary frequency control service; other than the obligation of Generator, is provided through the utilization of the related generation facility's remaining capacity after DGS and primary frequency obligations and/or by giving up-regulation/down-regulation instructions to the related balancing entity. Generator is responsible for making necessary arrangements at the control system in accordance with the updated reserve amount. Generator receives payment regarding the service provided within the frame of Electricity Market Ancillary Services Regulation.

5. PRIMARY FREQUENCY CONTROL SERVICE CERTIFICATES

As per the provisions of the Electricity Market Ancillary Services Regulation regarding ancillary services certificates, Generator shall certify via primary frequency control certificate that each generation facility, through which Generator will provide primary frequency control service, have capability to provide primary frequency control service.

Submitted primary frequency control certificates will enable to determine the consistency between the relevant legislative provisions and the primary frequency control service provided by the units, parameter values that are supposed to be provided by the units and Primary Frequency Control Reserve Capacity (Qp) that units can provide.

Primary frequency control service certificates that are submitted to TEIAS before signing this Agreement and that are indicated in the Appendix of this Agreement will be renewed triennially along with the performance tests carried out by the Generator. TEIAS can ask for the renewal of the primary frequency control service certificates as a result of the monitoring and controlling processes indicated in the Article 8 of this Agreement. Existing certificate of the legal entity shall be deemed void in case legal entity does not renew its primary frequency control service certificate within 2 months when required by TEIAS.

All primary frequency control service certificates that are valid for generation facilities registered to Generator take place in the Appendix 5 of this Agreement. TEIAS is authorized to accept test reports that are prepared in accordance with the report sample determined by TEIAS and shows the results of the tests that have been made and that will be made in accordance with Electricity Market Grid Code in place of primary frequency control service certificate until the time when firms which will make primary frequency control performance tests will be accredited by TURKAK.

6. PRICING OF THE PRIMARY FREQUENCY CONTROL SERVICE

TEIAS shall make payment upon the fixed unit service cost to Generators that provide primary frequency control service. Fixed unit service cost (TL/MWh) that is determined by the Price-Fixing Commission will be submitted to Authority by TEIAS for quarterly period, at least, 1 month before the beginning of the period when the cost will be valid, and it will become valid with the approval of the Board so as to be applied fixed to all Generators that provide primary frequency control service.

Payment amount for an invoicing period that will be paid to the Generators who have provided primary frequency control service according to its own and taken over obligations, in accordance with the primary frequency control service agreement, will be calculated pursuant to provisions of the Electricity Market Ancillary Services Regulation regarding primary frequency control service pricing. Stated amount is directly proportional to primary frequency control reserve amount (MW) and to duration when generation facility operates so as to give primary frequency response.

In case any settlement aggregation entity qualified as generation facility registered to Generator does not provide its obligation regarding primary frequency control reserve amount for an invoicing period, provisions regarding penal sanctions concerning primary frequency control service indicated in the Electricity Market Ancillary Services Regulation are imposed to the Generator for the related invoicing period.

Energy shortage or energy surplus emerging as a result of the provision of primary frequency control service will be evaluated within the scope of energy imbalance pursuant to Electricity Market Balancing and Settlement Regulation's enforcements.

7. INVOICING AND PAYMENT

Invoicing and payment processes regarding payments that is needed to be made to Generators providing primary frequency control service and fines that are imposed related to non-fulfilled obligations are carried out pursuant to provisions regarding notifications, invoicing and payments indicated in the Electricity Market Ancillary Services Regulation, by starting from the invoicing period that follows invoicing period when the service is provided. According to provisions of the Electricity Market Ancillary Services Regulation, payment notifications made via MMS will be accepted as official communication.

Invoices regarding primary frequency control service that will be made out to TEIAS by the Generators will be arranged at Turkish Lira (TL) and will be prepared in the invoicing format determined by TEIAS.

Default interest rate that is determined according to Article 51 of the Law on Collection Procedures of the Assets no. 6138 is applied on daily basis for invoices that are not paid on time.

8. RECORDING, MONITORING AND CONTROLLING

Generation facilities that will provide primary frequency control service shall be observable by the related RLDC to which facility is registered so as to meet qualifications indicated in the Electricity Market Grid Code and Electricity Market Ancillary Services Regulation. Generator is obliged to provide software and equipment required for the connection made for data exchange with TEIAS's monitoring system. In order to enable monitoring the Primary Frequency Control Operating State Information signal (PFCO: ON/OFF) through TEIAS's SCADA System, Generator will be connected to the Remote Terminal Unit (RTU) that is in the Communication System established within the scope of connection agreement.

Generator is obliged to certify retroactive service provision status for at least 3 months regarding the unit/block which will provide primary frequency control service. Data that will be provided shall, at least, meet the provisions indicated in the Appendix 4.

TEIAS is entitled to test or to get someone test at any time to question whether generation facilities provide services pursuant to provisions of the Electricity Market Grid Code and Electricity Market Ancillary Services Regulation, and whether they have the competence of providing primary frequency control service.

Recorded values of the Generator regarding primary frequency control reserve amount shall be within the $\pm 10\%$ tolerance value of the reserve amount indicated in the ancillary services agreement in relation with the deviation in the grid frequency. TEIAS can ask for the renewal of the primary

frequency control service certificate of the related facility in case it is determined within the frame of the related ancillary services agreement, as a result of monitoring or controlling processes undertaken by TEIAS, that generation facilities providing primary frequency control service do not provide the service as required.

Until the establishment of the required monitoring and controlling system by TEIAS, monitoring and control of the generation facilities that provide primary frequency control service will be carried out maximum on a monthly basis, by the related RLDC with the help of the related facilities' records, notifications made to the System Operator by the Generator regarding availability of the generation facilities, TEIAS's current SCADA system and other means. Generator will send the records regarding participation to primary frequency control to the related RLDC in electronic format and within period determined by TEIAS. Frequency, unit output power and related curves for requested time interval will be sent in the same page in the electronic format determined by RLDC by transferring them to the graphic context, if required by the related RLDC.

9. DISCHARGE OF AGREEMENT

This Agreement will automatically discharge when any conditions given below are realized:

- (a) In case Generator is no longer dependent on Electricity Market Balancing and Settlement Regulation,
- (b) In case of termination of the rights of the Generator to connect or use transmission system; as per the Communiqué Regarding Connection to Transmission and Distribution Systems in Electricity Market and System Usage,
- (c) In case of termination or cancellation of all generation licenses given to the Generator within the frame of Law and indicated in the Appendix 1.
- (d) When no generation facility, that obliged to provide primary frequency control within the frame of Electricity Market Ancillary Services Regulation remains, as part of this Agreement

Termination of this Agreement does not affect rights and obligations of the Parties that they had acquired as of termination date.

10. RESOLUTION OF DISPUTES

This Agreement will be interpreted and enforced according to legislations of the Turkish Republic. Ankara Court and Bailiff Departments are entitled for disagreements regarding this Agreement.

11. TRANSFER

Under no circumstances Generator can transfer or acts with the intention of transferring its rights and obligations resulting from this Agreement without a written permission of TEIAS, with the exception

of transfer of the obligations realized pursuant to Article 13 of Electricity Market Ancillary Services Regulation.

12. CONFIDENTIALITY

Parties are obliged to take necessary precautions to keep private information with commercial importance acquired through implementation of the relevant legislation or market activities or through any other possible way, and not to declare it to the third persons including legal entities who are their own association and/or shareholder.

Following conditions are the exceptions for this provision:

- (a) The situation when mentioned information is learned by community without any specific fault of the parties,
- (b) Emergence of the necessity to declare the information as part of a legal obligation.

13. INTELLECTUAL RIGHTS

If a counter agreement is not made, all intellectual rights related to the Agreement that are presented and developed by one of the employees, authorized representatives or consultants who are working for one of the parties, will be held by the concerned Party.

14. FORCE MAJEURE

In case obligations within the context of this Agreement cannot be fulfilled related to force majeure indicated in the Electricity Market License Regulation, affected obligations can be suspended with the procedure indicated in the Electricity Market License Regulation during the period when the force majeure or its effects continue and when it prevent the fulfillment of the obligations.

The party that cannot fulfill its obligations as a result of a force majeure will notify other Party in written within 5 days as of the starting date of the force majeure about the date when force majeure commenced, its nature, its effects on its obligations as part of license, approximate overcoming duration of the effects if such a thing is possible, precautions taken to overcome this situation and regular reports that includes up-to-date information. Document/documents confirming the force majeure will be submitted to the other Party within 15 days as of the written notification regarding official document/documents proving the force majeure is received.

15. AMENDMENT OF AGREEMENT

Amendment of the provisions of the Agreement can only be made through the supplementary protocols made among the Parties. Supplementary protocols become effective according as the entry into force of this Agreement when it is signed by the Parties and they are accepted as the inseparable parts of the Agreement.

16. WAIVER

Unless parties do not waiver their rights in written, a reasonable delay in the implementation of the rights within the frame of the relevant legislation and in this Agreement does not result in losing the rights in part or in whole and that is not mean to waiver these rights. Exercising a right in part do not constitute an impediment for exercising this right or another right in the future.

17. NOTIFICATIONS

Correspondence addresses and other contact information of the parties are as follows:

Turkish Electricity Transmission Co.Inc.

Address:

Fax:

Phone:

Web Site: www.teias.gov.tr

.....Co. Inc.

Address:

Fax:

Phone:

E-mail:

Notifications are made upon the procedures in accordance with the provisions of Electricity Market Ancillary Services Regulation and this Agreement. In case there is a change in the notification address, parties will notify other party in written regarding change of address within three working days before it happens. If this notification is not made, correspondence sent to last existing address will be valid.

The change in TEIAS’s address will be notified via publishing on the Official Gazette and/or a local gazette, and on TEIAS’s official web site.

18. VALIDITY OF THE AGREEMENT IN CASE OF PARTIAL NULLITY

If any provisions of this Agreement will be determined to be null, ineffective, invalid, unenforceable or contrary to legislation, this situation does not thoroughly or partially make rest of the provisions of this Agreement invalid. Agreement will be declared null and void within the frame of Code of Obligations; in case it appears that there is an obstacle to put the Agreement into force as a result of the detection.

19. ALIGNMENT WITH LEGISLATION

Legislation on the enforcement date of this Agreement and possible legislative changes are binding on parties.

20. PENAL SANCTIONS

In case situations requiring penal sanctions as per the provisions regarding penal sanctions concerning primary frequency control service in the Electricity Market Ancillary Services Regulation exist, aforementioned article provisions are imposed.

21. COMPENSATION

In case obligations in this Agreement is not fulfilled by the Generator and/or violation of Agreement, Generator will be responsible for loses of the TEIAS which are determined by technical commission and Generator will be obliged to retrieve all related losses of TEIAS.

22. CONTENT OF AGREEMENT

This Agreement is integrated with its Appendices, and binding on TEIAS and Generator. However, provisions of the Agreement will be grounded on, in case there is a contradiction or difference between provisions of Agreement and provisions of document in the Appendix composing agreement document.

23. AGREEMENT COSTS

All taxes and funds resulting from the signing of the Agreement will be paid by the Generator.

24. EFFECTIVE LAW

Agreement is subject to legislation of the Republic of Turkey.

25. TERMS OF ENTY INTO FORCE

This agreement becomes valid on the date when it is signed by the parties. This agreement consists of 25 Article and 6 Appendices, 1 copy of this agreement has been signed on .../.../2009 after it was fully read and comprehended by TEIAS and Authorities from Generator Company, and it was detained at TEIAS. A copy can be given to the Generator if required.

GENERAL DIRECTORATE OF TEIAS

TURKISH ELECTRICITY TRANSMISSION
CO. INC.

GENERATOR

APPENDICES

APPENDIX-1 Generation Facilities

APPENDIX-2 Data Regarding Generation Facility and Unit

APPENDIX-3 Summary Data Regarding Primary Frequency Control Capacity

APPENDIX-4 Description of the Data

APPENDIX-5 Primary Frequency Control Performance Test Certificate or Primary Frequency Control Performance Test Report

APPENDIX-6 Covenant

APPENDIX-1 GENERATION FACILITIES

Generator’s generation facilities that are obliged to participate in Primary Frequency Control according to Article 10 of the Electricity Market Ancillary Services Regulation are given below.

Name of the Generation Facility	Installed Capacity (MW)

Installed Capacity of the Generation Facilities Registered to Generator: MW

Valid Primary Frequency Control Participation Rate:..... (%)

Total Primary Frequency Control Reserve Amount that Generator is Obligated to Provide:..... MW

APPENDIX-2 DATA REGARDING GENERATION FACILITY AND UNIT

Name of the Generation Facility:.....

Name of the Legal Entity:.....

Code of the Unit:.....

Installed Capacity of the Unit:MW

Upper Limit of the Unit’s Operation Interval (Available Capacity): MW

Lower Limit of the Unit’s Operation Interval (Minimum Steady Generation Level): MW

Operation Adjusting Values of the Unit:

	Adjustability	Adjusted Value	Adjustment Range	Adjustment Resolution
Speed Droop				
Dead Band				
Limit Control				
Other ...				

Documents which will be added to Agreement by the Generator;

- Force majeure in its license,
- Loading Curve (MW-MVAR),
- For Hydroelectric Plants (HEP); Hydraulic Turbine Head, Specific Water Consumption, Output Power Characteristic Curve,
- For Steam Turbine Generator; Output Power Curve of the Steam Turbine According to Coal Quality (kcal/kwh),
- For Gas Turbine-Generator; Output Power Curves of the Gas Turbines According to Environmental Conditions (temperature, pressure, humidity), Maximum Output Power Change Curve According to Frequency Deviation, documents indicating that the conditions taking place in the Appendix-2 as part of Article 20 of the Electricity Market Grid Code are fulfilled.

APPENDIX-3 SUMMARY DATA REGARDING PRIMARY FREQUENCY CONTROL CAPACITY

Generation Facility:

Unit :

Maximum Primary Frequency Control Reserve Capacity (ΔP) = $\text{Max}(Q_p)$ =(MW)

Min. Primary Frequency Control Reserve Capacity = $\%2,0 \times \text{Installed Capacity } (P_{\text{nom.}})$ =(MW)

... Power Plant	$P_{\text{nom.}}$ (MW)	P_{set} (MW)	ΔP (MW)	Activation Duration (second)	Continuation Duration (minute)	Accuracy (mHz)	Dead Band (mHz)	Speed Droop (%)	
								Regulated	Realized
Maximum Output Power Level Tests ($P_{\text{set}} = \dots\dots\dots$ MW)									
Unit-#	- 200 mHz								
	+ 200 mHz								
Minimum Output Power Level Tests ($P_{\text{set}} = \dots\dots\dots$ MW)									
Unit-#	- 200 mHz								
	+ 200 mHz								

P_{nom} : Nominal Value of the Unit Installed Capacity (MW),

P_{set} : Set Value of the Unit Output Power (MW),

$\Delta P = Q_p$: Change in the Unit's Output Power (average of the steady state values between 90th and 900th seconds), Primary Frequency Control Reserve Capacity (MW),

Tests regarding minimum output power level are realized in case operating conditions such as coal quality, water level and ambient temperature in the plants according to plant type are suitable.

APPENDIX-4 DESCRIPTION OF THE DATA

TEIAS is authorized to request the data in this Appendix from generation facilities participating in primary frequency control to determine the change in the active power output of the unit in case of frequency deviation.

Generator will provide services aiming to show the value curve graph in the screen by measuring data determined by TEIAS on-site to monitor primary frequency control service, and recording required data with the timestamp regarding the time when these are measured, and reporting the data as determined by TEIAS. In line with this purpose, data determined by TEIAS will be measured continuously during the provision of ancillary services (other than during outage, planned or specific interventions) and will be recorded. All kinds of devices, equipments and software that will be required to provide these data and reports will be selected and installed by the Generator. All kinds of equipments, assembly and cabling activities required for the installation will also provided by the Generator.

Generator will provide required software and equipment that will allow connection and remote access for the purpose of data exchange with the monitoring and control system which will be established by TEIAS.

Generator will measure the data recorded regarding primary frequency control service as 1 datum per second (one data within 1000 milliseconds or less) for generator data such as frequency, active output power, and reactive output power and as 1 datum per minute (one data within 60 second or less) for data regarding control system or operating conditions such as temperature, speed curve and dead band, and these data will be recorded with the timestamp regarding the time when these are measured, unless otherwise stated by TEIAS.

Generator will record, at least, the data given below regarding primary frequency control service, as required:

S/N	Signal Name	Sampling Duration
1	System Frequency (Hz) and/or Turbine Speed (rpm)	0 ... 1 second
2	Active Output Power Set Point Value (Pset)	0 ... 1 second
3	Active Output Power Realized Value (MW)	0 ... 1 second
4	Primary Frequency Control Operation Status Info (Primary Frequency Control Activated/Deactivated; PFCO: ON/OFF)	0 ... 60 second
5	Breaker Status Info (Breaker On/Off; MCB : ON/OFF)	0 ... 60 second
6	Turbine Speed Regulator Operating Mode (Power Control for Combine Cycle Electricity Plants, Speed Control, Temperature Control, and so on...)	0 ... 60 second
7	Speed Droop (%)	0 ... 60 second
8	Dead Band (mHz)	0 ... 60 second

In order to compose the data that are ground for the payment notifications prepared by TEIAS and to realize control activities, the Generator will send the data regarding primary frequency control participation to the related RLDC in electronic formats and within period determined by TEIAS within the frame of the principles determined by TEIAS.

**APPENDIX-5 PRIMARY FREQUENCY CONTROL PERFORMANCE TEST CERTIFICATE
OR PRIMARY FREQUENCY CONTROL PERFORMANCE TEST REPORT**

APPENDIX-6 COVENANT

I guarantee that I will provide primary frequency control reserve amount as I obliged to, to the limit specified in the Agreement during the term of the agreement in compliance with the provisions of the Electricity Market Grid Code, Electricity Market Ancillary Services Regulation and this Agreement.

SUPPLIER