

**Annex 16 — Template of Project Fiche for IPA programmes / component I -  
decentralised management**

**Abbreviations:**

**CFCU: Central Finance and Contract Unit**

**EML: Electricity Market Law**

**EMRA: Energy Market Regulatory Authority**

**ENTSO-E RG CE: European Network of Transmission System Operators for Electricity**

**EUAS: Electricity Generation Company**

**EUSG: Secretariat General for European Union Affairs**

**MENR: Ministry of Energy and Natural Resources of Republic of Turkey**

**TEIAS: Turkish Electricity Transmission Corporation**

**TSO: Transmission System Operator**

**UCTE: Union for Coordination of Transmission of Electricity  
Regional Group Continental Europe**

**Standard Summary Project Fiche – IPA decentralised National programmes**  
(maximum 12/15 pages without the annexes)

**1. Basic information**

**1.1 CRIS Number:** TR2010/0315.01

**1.2 Title:** Harmonization of Transmission Code inline with ENTSO-E

**1.3 ELARG Statistical code:** 03.15 Energy

**1.4 Location:** Turkey

**Implementing arrangements:**

**1.5 Implementing Agency:**

The Implementing Agency for the project will be the Central Finance and Contracts Unit (CFCU).

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**1.6 Beneficiary (including details of SPO):**

The Beneficiary of the project is Turkish Electricity Transmission Corporation (TEIAS). Details of the SPO (Senior Programming Officer) of the Project are given below.

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## **Financing:**

**1.7 Overall cost (VAT excluded)<sup>1</sup>:** 1,500,000 - EURO

**1.8 EU contribution:** 1,350,000 - EURO

**1.9 Final date for contracting:** 2 years after the signature of the Financing Agreement

**1.10 Final date for execution of contracts:** 2 years after the last date of the contracting deadline

**1.11 Final date for disbursements:** 1 year after the end date for the execution of contracts.

## **2. Overall Objective and Project Purpose**

### **2.1 Overall Objective:**

Overall Objective is to fully integrate the Turkish Electricity Market to the EU Internal Electricity Market with fulfilment of power system operational security and quality of supply requirements of ENTSO-E RG CE (European Network of Transmission System Operators for Electricity Regional Group Continental Europe) system.

### **2.2 Project purpose:**

Project purpose is to harmonize the Turkish Power System Transmission Code in line with ENTSO-E RG CE technical/market requirements to be implemented in planning/operational activities of TEIAS. Especially by improving the overall interconnected power system operational security and quality of supply for the end users, which will enhance the electricity transmission system performance in Turkey and in the ENTSO-E system. This will provide better functionality in general power system operation.

### **2.3 Link with AP/NPAA / EP/ SAA**

#### **AP**

- In the 2008 Accession Partnership Document (2008/157/EC), it is stated;

“3. PRIORITIES

3.1. Short Term Priorities:

Ability to assume the obligations of membership

Chapter 15: Energy

Continue alignment with, and implementation of, the acquis on the internal gas and electricity market and on cross-border exchanges in electricity, also with a view to possible membership of the Energy Community Treaty...”

#### **NPAA**

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<sup>1</sup> The total cost of the project should be net of VAT and/or other taxes. Should this not be the case, the amount of VAT and the reasons why it should be considered eligible should be clearly indicated (see Section 7.6)

- In the 2008 NPAA, in the field of energy (Chapter 15), it is stated that alignment with and implementation of the acquis on the internal gas and electricity market and on cross-border exchanges in electricity, with a view to possible membership of the Energy Community Treaty will be continued.” (Priority 15.1)

Moreover in the 2008 NPAA, it is stated under Priority 15.4, that the administrative and regulatory structures needed for a functional and competitive energy market will be further strengthened and their independence will be ensured.

#### **2.4 Link with MIPD:**

In the Multi-annual Indicative Planning Document 2008-2010 for Turkey, it is implied under “Component I - Transition Assistance and Institution Building” title and “Objectives and Choices” subheading that, in addition to the priorities, Institution Building support may also be provided in some other areas of the acquis, and Energy (independence of regulatory authorities, third party access, cross border trade, promotion of energy efficiency and renewable, radioactive waste management) is listed among those areas.(page 19, paragraph 5)

#### **2.5 Link with National Development Plan**

It is stated in The Ninth Development Plan 2007-2013, which was approved by Turkish Grand National Assembly on 28 June 2006 with Law No: 877 that the necessary investments in the electricity transmission system will be carried out in a way to protect the security and reliability of the electricity system (paragraph 409).

With the improvement of the institutional structure and capacity of Turkish Electricity Transmission Corporation, the electricity system of Turkey will be more reliable and security of supply could be maximized, and moreover this would help the continuous electricity trade between Turkey and EU counterparts, especially taking into consideration the EU priority projects and the UCTE projects.

#### **2.6 Link with national/sectoral investment plans**

Not Applicable

### **Description of project**

#### **3.1 Background and justification:**

Turkish Electricity Transmission Co. promulgated on the strength of the Decree Law No. 233 of 08.06.1984 and its amendments regarding the State Economic Enterprises and the Decree Law No. 399 of 22.01.1990, to operate under the framework of the Council of Ministers’ Decision attached to the Decree No. 2001/2026, and the Electricity Market Law (EML) No. 4628, dated 20.02.2001 enforced on 02.03.2001.

As TEIAS is the sole owner and operator of the transmission system which is composed of 66, 154 and 400 kV sub-systems, and the Balancing Market Operator, it has a very centralized position within the new market structure. After taking the Transmission License from the regulator on 13 March 2003, TEIAS is introduced as the TSO. .

The connection of the Turkish Power System with the ENTSO-E RG CE (Former UCTE) power system has been on the agenda of Turkey since 1975. The “Complementary Technical Studies for the Synchronization of the Turkish Power System with the UCTE Power System” project, 1st UCTE Project, was developed and started on 28th September 2005 and finalized with success on 20th April 2007.

The 1st UCTE Project was concluded that the system interconnection of Turkey to UCTE is feasible under following conditions: the existing inherent frequency control problem is resolved, positive damping effect of AVR for the 0,15 Hz inter-area oscillations is assured in the majority of generation units, a System Protection Scheme at the interface is necessary to manage extreme contingencies.

As the second phase of the studies, the “Rehabilitation of the Frequency Control Performance of Turkish Power System for Synchronous Operation with UCTE”, namely 2nd UCTE Project, has been developed. In the scope of the 2nd UCTE Project Turkish power system will be prepared for future parallel operation with ENTSO-E system regarding power and frequency control, steady state and transient stability. Currently the Project is in Pre-Project phase and the pre-studies are going with the participation of UCTE members TSOs, namely RWE, TERN, SwissGrid, HTSO, RTE, ESO, EMS, in addition to TEIAS and EUAS(Turkish Electricity Generation Corporation).

The studies/activities for the synchronous parallel interconnection of Turkish Power System to ENTSO-E RG CE (former UCTE) is going on successfully based on the collaboration with the ENTSO-E RG CE experts, universities and manufacturers. After the Steering Committee approval and decision, the mandatory final tests of the Turkish power system and the trial parallel operation phases, the final interconnection to the ENTSO-E RG CE Network will be realized.

The existing Turkish Power System Electricity Market Grid Regulation and System Security and Quality of Supply (Electricity Transmission System Supply Reliability and Quality Regulation) regulations have been in force since 2003 and 2004 respectively. The Turkish Power System Electricity Market Grid Regulation and System Security and Quality of Supply regulations have been regularly reviewed and updated as required. It is continuously being improved to reflect the latest developments in technology, operations and power generation and legislation on organizational regulations.

By using the results of 1st (finalized) and 2nd UCTE (on the preproject phase) Projects, the physical connection of Turkish power system with ENTSO-E system will be realized.

After connection of Turkish power system with ENTSO-E system, the technical and market applications shall be in line with ENTSO-E member TSOs applications. For this purpose, this Project will provide the harmonization of Turkish power system regulations with the ENTSO-E requirements.

The revised Turkish Transmission Code will be consistent with international regulations and obligations such as the ENTSO-E RG CE regulations, concerning

interconnected operations and the provisions of ETSO, and will complement the current technical rules for the Turkish electricity industry. The Turkish Transmission Code will define the technical principles and requirements governing operation and use of the Turkish power system and the associated roles of the players involved. The Turkish Transmission Code will further define the technical and organizational principles and requirements governing connection to the Turkish power system as well as operation of the connected generating units and end user systems.

As TEIAS has to plan the connection of the integration of intermittent (wind) generation to the power system, the new Transmission Code shall also focus on measures needed to be taken aiming at establishing a set of rules for the integration of wind power. This set of rules is vital for the secure and reliable operation of the electricity network in presence of variable generation.

By organising training activities in the more than one member TSOs within the scope of this Project, one of the targets is to get benefit of sharing the gained operational application experiences of the member TSOs engineers. Especially visiting neighbouring countries National Control Centers and one of the ENTSO-E control block coordinators (Brauweiler-Germany, Laufenburg-Swiss) could be useful. Therefore more than one member state experience is necessary for effective preparation of the New Transmission Code.

Improvement of connection requirements for wind turbines is also in the scope of the project. Most of wind turbines do not actively contribute to grid stability. In the event of slight voltage or frequency drops in the transmission network - even if it is correctly cleared by the protection systems - the protection system of wind generators may cause instantaneous disconnection of a significant number of wind farms with the consequent loss of power generation. In order to tackle this problem effectively, all power generators - including wind power producers - should be obliged to meet certain operational requirements such as fault-ride through capability or voltage support.

Final regulations should be parallel with the ENTSO-E RG CE member TSOs' experiences. It could be preferable to choose a Technical Assistance Party which had worked for upgrading the Transmission Code of a member TSO of ENTSO-E RG CE. The upgraded ENTSO-E RG CE member TSO Transmission Code shall also include regulations regarding planning and operational requirements of the wind power plants.

The Technical Assistance Party of the Project shall be preferably renewed a Transmission Code of a member TSO of the ENTSO-E RG CE system later than 1st January 2007 to get benefit of the fresh experiences.

For this purpose, Technical Assistance Party could be a Consortium.

### **3.2 Assessment of project impact, catalytic effect, sustainability and cross border impact (where applicable)**

As Turkish power system has not been synchronized with any neighbouring countries, the existing regulations have been prepared according to the needs of an island power

system. In the near future, Turkish power system will be connected to ENTSO-E RG CE system and the regulations have to be revised according to the needs of being a part of the large interconnected power system.

After connection, the engineers working Dispatching Department, especially in National Control Center and Regional Control Centers of TEIAS will apply the new Transmission Code requirements. The results of this Project will be reflected in the operational applications in TEIAS.

After approval of the Turkish Transmission Code, the parallel operation of Turkish Electricity System with ENTSO-E RG CE system will be enhanced. The rules and the applications of the two electricity systems, concerning system reliability and grid regulations, will be compatible, and there will be a better functioning system in the the cross border electricity trade between Turkey and her neighbours (in Europe)

### 3.3 Results and measurable indicators:

<b>Results</b>	<b>Measurable Indicators</b>
<ul style="list-style-type: none"> <li>- New Turkish Transmission Code is prepared (according to Official Procedure it is submitted to EMRA for approval).</li> <li>- The capacity of TEİAŞ for sustainable implementation of the new transmission code is improved.</li> </ul>	<ul style="list-style-type: none"> <li>-1 study visit with two destinations is organized and totally 12 personnel of TEIAS attended to these study visit.</li> <li>-3 workshops are organized and 60 people participated to these workshops.</li> <li>- Two training programs are realized and 30 engineers of TEIAS have been trained and Trainer Certification will be supplied to the successful trainees after the qualification exam.</li> <li>-Official request of TEIAS for the approval of the final draft Transmission Code from EMRA at the end of the project.</li> </ul>

### 3.4 Activities:

#### Activity 1: Review of the SSQS and Turkish Electricity Market Grid Regulations

- 1.1 To investigate the technical requirements stated in UCTE Handbook.
- 1.2 To investigate the market and technical regulations in ENTSO-E RG CE that shall be reflected in the new Turkish Transmission Code.
- 1.3 To prepare test procedures for governor control, parameter optimization, tuning for each type of power plants (hydraulic, thermal, natural gas, nuclear) and add the procedure to the Transmission Code
- 1.4 To prepare test procedures for power system stabilizers parameter optimization, tuning for each type of power plants (hydraulic, thermal, natural gas, nuclear) and add the procedure to the Transmission Code
- 1.5 To prepare first draft Project Report by the Turkish Project Group and TA party experts.

## **Activity 2: Review of the ENTSO-E RG CE technical requirements**

- 2.1 To prepare the list of necessary technical requirements to be added to Transmission Code to get compliant with the UCTE Handbook.
- 2.2 To prepare the list of the necessary requirements that shall be reflected in Transmission Code to get compliant with the ENTSO-E RG CE regulations.
- 2.3 To prepare first draft Transmission Code to get fully compliant with the ENTSO-E RG CE requirements with the TEIAS Experts Group.

## **Activity 3: Study Tours, Workshops, Training Activities**

- 3.1 To organize 1 technical study visit (for 12 people and for about ten days) to ENTSO-E RG CE member Transmission Company. The first stop of the study visits shall preferably be to ENTSO-E control block coordinators centers (Brauweiler-Germany, Laufenburg-Swiss) and the next stop of the technical visit shall be to ENTSO-E member TSO National Control Center to share gained experiences.

The technical people of TEIAS who will take active roles in preparing Transmission Code will be from several departments of TEIAS such as; dispatching, planning, communications, protection and marketing. These Groups will be formed by the engineers from these departments who have been in service of TEIAS more than 10 years and preferably have management positions (Technical Chiefs, Assistant Managers, Managers). There should be series of seminars during the site visits on ENTSO-E RG CE Operational Handbook requirements and the host country Transmission System Grid Code. The series of seminars will include operational, planning, tele-communication, relay protection, market structure, balancing and cross border trading aspects in general.

By the end of study visits, the details of “theoretical and practical training programs for the electrical engineers” will be proposed by the Project Partner and will be discussed and fixed according to the proposals of the TEIAS participants.

The training programs will be in English language and participants will have enough qualification. Training documents/materials will be supplied to the participants as electronic and hard copy before training.

- 3.2 To organize 2 consultation workshops in TEIAS with the participation of Technical Assistance Party, EMRA, MENR and sector stakeholders. The expected participation of each workshop could be 20 people.

- 3.3 To organize theoretical and practical training programs for the electrical engineers:
  - 8 engineers from Dispatching Department who have been in service of TEIAS for 2-10 years and working as shift engineers for dispatching operations in National Control Center or Regional Control Centers,
  - 8 engineers from Dispatching Department who have been in service of TEIAS more than 10 years,
  - 4 engineers from Dispatching Department - Europe Transmission Coordination Division who have been in service of TEIAS more than 10 years, have been coordinated and got experience in “Complementary Technical Studies for the Synchronization of the Turkish Power System with the UCTE Power System” project, 1st UCTE Project and “Rehabilitation of the frequency control

performance of Turkish Power System for Synchronous Operation with UCTE”, 2nd UCTE Project.

- 8 engineers who have been in service of TEIAS more than 5 years: (2 person from planning (Research, Planning and Coordination Department), 2 person from communication (Communication, Control, Automation and Data Processing Department), 2 person from relay protection (Transmission System Operation and Maintenance Dept Communications Department), 2 person from marketing (Balancing and Settlement Department)) from other technical departments of TEIAS.
- 2 engineers who have been in service of EUAS (Turkish Generation Company) more than 10 years: one from hydraulic power plants and one from thermal power plants)

The first training program will be in Turkey, that will last a week., for total 30 engineers whom will be divided into two groups, and there will be 15 participants in each group. By this training, participants will get familiar with the Operational Handbook of ENTSO-E RGCE system and new Turkish Transmission Code.

By the end of theoretical training, there will be certification test for the participants. The successful certified participants will be the “Trainers” for the TEIAS personnel in order to develop application and information capacity of technical and market requirements of the Transmission Code and to enhance the Transmission System secure operation margin.

The Training Programs will be organized each year for the TEIAS personnel by these Trainers after finalization of this Project.

The second training program will be site visits to two destinations. For the same 30 engineers (divided into two groups), first stop will be preferably to ENTSO-E RG CE control block coordinators center (Brauweiler-Germany, Laufenburg-Swiss) or if not possible in one of the ENTSO-E RG CE member Transmission Company National Dispatching Center, and second stop will be in another ENTSO-E RG CE member TSO National Control Center, preferably a neighbouring country. The training will be about 10 days to share gained experiences in order to develop application and information capacity of the technical person to work in application of Transmission Code in line with ENTSO-E RG CE system requirements. There should be series of seminars during the site visits on applications of ENTSO-E RG CE Operational Handbook requirements and the host country Transmission System Grid Code which will include operational, balancing and cross border trading aspects in detail with examination of real cases on site.

The training programs will be in English language and participants will have enough qualification. Training documents/materials will be supplied to the participants as electronic and hard copy before training.

#### **Activity 4: Finalization of the new Turkish Transmission Code**

4.1 To prepare final version of Turkish Transmission Code for the approval of EMRA.

4.2 Workshop for presenting the final draft of Turkish Transmission Code to the relevant stakeholders.

### **3.5 Conditionality and sequencing:**

N/A

### **3.6 Linked activities**

There are a number of linked activities supported by the European Commission and the World Bank which are completed, planned or underway:

#### **3.6.1 EU Activities**

##### **3.6.1.1 Completed Projects**

The projects listed below were performed with the support of EU to some extent and are already completed.

- Feasibility And Evaluation Study of the Electricity Interconnection Greece–Turkey

In parallel with official application by Greece to UCTE (21<sup>st</sup> March 2000), the feasibility study on Greece-Turkey interconnection has been started for the parallel operation of Turkish power system with UCTE network via Balkan Pool, title purpose of as the Project of “Feasibility and Evaluation Study of the Electricity Interconnection Greece-Turkey”.

The Objective of the Project was,

- To examine the economic and technical feasibility of a 400kV interconnection line between Greece and Turkey for parallel and synchronous operation of Turkish power system with the interconnected South-Eastern European electric power systems and then with UCTE after reconnection of 1st and 2nd Zone of UCTE,
  - To identify system configuration enabling the secure, stable and reliable exchange of bulk amounts and necessary reinforcements.
- “Complementary Technical Studies for the Synchronization of the Turkish Power System with the UCTE Power System” (TR 0303.03)

The project purpose was to determine the technical conditions under which the Turkish power system may be synchronized with the UCTE power system. The Project was supported within the 2003 Pre-Accession Financial Cooperation Programme between Turkey and the EU and had a budget of 1.500.000 €. This project has been finalized with success in 2007.

- Improvement of the Conditions for Cross Border Electricity Trade in Turkey in Compliance with the Best Practice in EU

The Project is a Twinning Project with 24 months duration financially supported by EU within the 2006 Pre-Accession Financial Co-operation Programme between Turkey and the EU. The purpose of the Project was to improve the conditions for the functioning of cross-border electricity trade in Turkey by removing technical, administrative and legislative obstacles. The Project consisted of two tasks:

- “Improvement of the Operation and Maintenance Performance of Turkish Transmission System”. The purpose of this task was to improve the technical performance of the Turkish transmission system regarding the existing infrastructure, operation and maintenance capabilities.

- “Development and/or Improvement of Legislative Framework and Administrative Capacity in Turkish Electricity Market Regarding the Cross Border Electricity Trade”. This task’s purpose was to make new arrangements on the existing Turkish electricity market legislation, market operation and management structure to reach an appropriate level of services to be ensured for the whole regional market participants regarding the cross border electricity trade.

### **3.6.1.2 Projects in Progress**

The projects listed below are being performed with the support of EU to some extent and are still in progress:

- Euro Mediterranean regional project “Euro Mediterranean Energy Forum - Support to the Ad Hoc Groups”

The project was financed through the MEDA Programme; for supporting the three Ad Hoc groups, namely Energy policy, Economic Analysis and Interconnections, which were created according to the action plan of the Euro Mediterranean Energy Forum, to achieve their objectives.

- Euro Mediterranean regional project “MEDRING”

The project aimed at the technical and economic assessment of the interconnection of the electricity transmission networks of the Mediterranean countries, and was financed through MEDA Programme.

- Southeast Europe Electricity Regulatory Forum (SEERF) Initiative of EU

The project objective is the creation of a regional electricity market in the South Eastern Europe by the year 2005 and its further integration to the Internal Electricity Market (IEM) of the EU. Turkey participates as a member state in the Southeast Electricity Regulatory Forum (SEERF) and signed the Memorandum of Understanding on 15 November 2002. The project is sponsored by EC and Stability Pact and is supported by UCTE, CEER and ETSO.

- Rehabilitation of the frequency control performance of Turkish Power System for Synchronous Operation with UCTE

This project is a Direct Contract project implemented with UCTE. It was proposed by TEIAS in the context of the 2007 Pre Accession Financial Programme. Within this project, Turkish Power System is being prepared for future parallel operation with UCTE regarding power and frequency control, steady state and transient stability. This project is accepted and preliminary studies have been started.

### **3.6.2 World Bank Activities**

The projects listed below are being performed with the support of World Bank:

- National Transmission Grid Project

The Project, which started in 2002 and is finalized in 2008, is financed from an IBRD loan of USD 230 million. It covers the restructuring of the sector and also the construction of transmission facilities; including the Turkish part of the 400kV Turkey-Greece interconnection line.

### **3.6.3 Internal Activities**

The following projects were carried out by TEIAS in collaboration with TUBITAK-BILTEN (The Scientific and Technical Research Council of Turkey – Information Technologies and Electronics Research Institute):

- System Studies for interconnection of Turkish Electric System to The Balkan Countries and UCTE; completed.
- Study of Situation Determining for Primary Frequency Control and System Frequency Performance Tests, in 2002.
- Primary Frequency Control Performance Tests and the Statistical Analysis of Line Frequency, in 2003.

The TUBITAK-BILTEN project revealed that the frequency control performance of Turkish power system can be improved to the level required by UCTE through the realization of a more detailed and comprehensive study involving the optimization of the system as a whole and dynamic performance analysis for each unit of the selected power plants that will participate in frequency control operation.

### **3.7 Lessons learned**

By the “Complementary Technical Studies for the Synchronization of the Turkish Power System with the UCTE Power System” project, 1st UCTE Project, power system analyses performed regarding interconnected UCTE system with the Turkish power system. With rehabilitation of frequency control performance of Turkish power system and installation of Special Protection Scheme on the borders, the availability of interconnection was proved by these interconnected system analyses.

By the “Rehabilitation of the Frequency Control Performance of Turkish Power System for Synchronous Operation with UCTE”, namely 2nd UCTE Project, the aim is to improve the frequency control performance of Turkish power system and install SPS and other relevant damping measures to the Turkish power system before interconnection.

The connection of Turkish power system to the ENTSO-E RG CE network, which is still underway, will ensure the integration of Turkish power system at first to the Southeast Europe Electricity market and then to the EU internal electricity market as it was also envisaged by the MoU on Regional Energy Market in Southeast Europe and its Integration into the European Internal Energy Market which was signed on November 15, 2004. Such integration will create the proper conditions for cross border electricity trade and have impacts not only on the local electricity market but also on the entire EU internal electricity market. Furthermore, such integration will force the establishment of a well functioning electricity transmission system and electricity market operation and management structure in Turkey.

The ENTSO-E RG CE members’ objective is the security of operation of the interconnected power system. Close cooperation of member companies is required to make the best possible use of benefits offered by interconnected operation. Moreover, the strong meshing of the ENTSO-E RG CE power system requires a common understanding of technical and organizational processes and procedures in terms of network and system operation management. For this purpose the harmonization of technical requirements of the existing Turkish Electricity Market Grid Regulation with the ENTSO-E RG CE technical requirements is very important. Also by the application of this Project, it could be possible to set forth the procedures and principles applicable to the transmission system supply reliability and quality requirements to be fulfilled

with the ENTSO-E RG CE technical requirements for reliable and low-cost operation of the transmission system and for ensuring delivery of high quality, adequate and low cost energy to consumers.

#### 4. Indicative Budget (amounts in EUR)

			SOURCES OF FUNDING										
			TOTAL EXP.RE	TOTAL PUBLIC EXP.RE	IPA CONTRIBUTION		NATIONAL PUBLIC CONTRIBUTION					PRIVATE CONTRIBUTION	
ACTIVITIES	IB (1)	INV (1)	EUR (a)=(b)+(e)	EUR (b)=(c)+(d)	EUR (c)	% (2)	Total EUR (d)=(x)+(y)+(z)	% (2)	Central EUR (x)	Regional/Local EUR (y)	IFIs EUR (z)	EUR (e)	% (3)
Activity 1													
Service Contract 1.1	X	-	1,500,000	1,500,000	1,350,000	90	150,000	10					-
TOTAL IB			1,500,000	1,500,000	1,350,000	90	150,000	10					
TOTAL INV													
<b>TOTAL PROJECT</b>			1,500,000	1,500,000	1,350,000		150,000						

NOTE: DO NOT MIX IB AND INV IN THE SAME ACTIVITY ROW. USE SEPARATE ROW

Amounts net of VAT

(1) In the Activity row use "X" to identify whether IB or INV

(2) Expressed in % of the **Public** Expenditure (column (b))

(3) Expressed in % of the **Total** Expenditure (column (a))

## 5. Indicative implementation Schedule (periods broken down per quarter)

Contracts	Start of Tendering	Signature of contract	Project Completion
Service Contract 1.1	2nd quarter of 2011	4rd quarter of 2011	4rd quarter of 2012

## 6. Cross cutting issues (where applicable)

### 6.1 Equal Opportunity

Equal opportunity principles and practices in ensuring equitable gender participation in the project will be guaranteed. Male and female participation in the project will be based on the relevant standards of the EU. The main criteria for staff recruitment will be appropriate qualifications and experience in similar projects, not sex or age. Both men and women will have equal opportunities and salaries.

### 6.2 Environment

Not applicable

### 6.3 Minorities and vulnerable groups

According to the Turkish Constitutional System, the word “minorities” encompasses only groups of persons defined and recognized as such on the basis of multilateral or bilateral instruments to which Turkey is a party. This project has no negative impact on minority and vulnerable groups

### 6.4 Civil Society

Not Applicable

## **ANNEXES**

- 1- Log frame in Standard Format
- 2- Amounts contracted and Disbursed per Quarter over the full duration of Programme

**ANNEX 1: Logical framework matrix in standard format**

LOGFRAME PLANNING MATRIX FOR Project Fiche	Programme name and number		
<b>Harmonization of Transmission Code inline with ENTSO-E</b>	Contracting period expires 2 years after the signature of financing agreement	Disbursement period expires 1 year after the end date for the execution of contracts	
		Total budget : <b>1.5M€</b>	IPA budget: <b>1.35M€</b>
<b>Overall objective</b>	<b>Objectively verifiable indicators</b>	<b>Sources of Verification</b>	
Overall Objective is to fully integrate the Turkish Electricity Market to the EU Internal Electricity Market with fulfilment of power system operational security and quality of supply requirements of ENTSO-E RG CE (European Network of Transmission System Operators for Electricity Regional Group Continental Europe) system.	Commercial and physical power exchange between interconnected countries will be possible within system operational security margins within two years after finalization of this Project.	- Progress in Monitoring Reports prepared concerning Turkey - Progress in Regular Reports prepared concerning Turkey	
<b>Project purpose</b>	<b>Objectively verifiable indicators</b>	<b>Sources of Verification</b>	<b><u>Assumptions</u></b>
Project purpose is to harmonize the Turkish Power System Transmission Code in line with ENTSO-E RG CE technical/market requirements to be implemented in planning/operational activities of TEIAS. Especially by improving the overall interconnected power system operational security and quality of supply for the end users, which will enhance the electricity transmission system performance in Turkey and in the ENTSO-E system. This will provide better functionality in general power system operation.	Operation of the interconnected system within system quality and security limits by applying relevant technical rules compliant with the ENTSO-E RG CE technical requirements after finalization of this Project.	- Annual reports of EMRA - Annual Reports of TEIAS	

<b>Results</b>	<b>Objectively verifiable indicators</b>	<b>Sources of Verification</b>	<b>Assumptions</b>
<p>- New Turkish Transmission Code is prepared (according to Official Procedure it is submitted to EMRA for approval).</p> <p>-The capacity of TEİAŞ for sustainable implementation of the new transmission code is improved.</p>	<p>-1 study visit with two destinations is organized and totally 12 personnel of TEIAS attended to these study visit.</p> <p>-3 workshops are organized and 60 people participated to these workshops.</p> <p>- Two training programs are realized and 30 engineers of TEIAS have been trained and Trainer Certification will be supplied to the successful trainees after the qualification exam.</p> <p>-Official request of TEIAS for the approval of the final draft Transmission Code from EMRA at the end of the project.</p>	<p>- Progress Reports of the Project</p> <p>- Annual reports of EMRA</p> <p>- Annual Reports of TEIAS</p> <p>- The examination and certificates.</p>	<p>- The necessary technical requirements will be implemented in planning/operational activities in TEIAS</p> <p>- The adaptation of necessary Institutional arrangements</p> <p>- The necessary technical requirements will also be adapted in related regulations</p>
<b>Activities</b>	<b>Means</b>	<b>Costs</b>	<b>Assumptions</b>
<p><b>Activity 1: Review of the SSQS and Turkish Electricity Market Grid Regulations</b></p> <p><b>Activity 2: Review of the ENTSO-E RG CE technical requirements are reviewed</b></p> <p><b>Activity 3: Study Tours, Workshops, Training Activities</b></p>	<p>Service Contract (Technical Assistance)</p>	<p>1.5M€</p>	

<b>Activity 4: Finalization of the new Turkish Transmission Code</b>			
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**Pre conditions**

**ANNEX II: amounts (in € Contracted and disbursed by quarter for the project (IPA contribution only)**

<b>Contracted</b>	<b>4nd q/2011</b>	<b>1st q/2012</b>	<b>2nd q/2012</b>	<b>3st q/2012</b>	<b>4nd q/2012</b>	<b>check</b>
Service Contract 1.1	1,350,000	0	0	0		<b>1,350,000</b>
<b>Cumulated</b>	<b>1,350,000</b>	<b>1,350,000</b>	<b>1,350,000</b>	<b>1,350,000</b>	<b>1,350,000</b>	<b>1,350,000</b>
<b>Disbursed</b>						<b>check</b>
Service Contract 1.1	270,000		472,500		472,500+ 135,000	1,350,000
<b>Cumulated</b>	<b>270,000</b>	<b>270,000</b>	<b>742,500</b>	<b>742,500</b>	<b>1,350,000</b>	<b>1,350,000</b>

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