



ADB



Greater Mekong Subregion

RPTCC #26 Meeting

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1. GMS Grid Code Summary
2. Gap Assessment Approach
3. Enforcement of the GMS Grid Code
4. WGPO Work Plan – GMS Grid Code Enforcement & Operationalization of the Synchronous Zone

1. GMS GRID CODE SUMMARY

Since the RPTCC 23 Meeting in Dec 2017, there were 5 WGPG / WGPO meetings.

- 5 WGPG/WGPO Meetings:
 - 03/2018 Phnom Penh;
 - 06/2018 Nay Pyi Taw with RPTCC24;
 - 09/2018 Bangkok;
 - 03/2019 Bangkok; with RPTCC 25
 - **25/11/2019 Hanoi;** with RPTCC 26

Structure of the GMS Grid Code:

1. Preamble
2. Governance
3. Connection Codes
 - Demand Connection Code
 - Requirements for Generators
 - High Voltage Direct Current Connections
4. Operational Security Code
5. Operational Planning and Scheduling Code
6. Load Frequency Control and Reserves Code
7. Emergency & Restoration Code
8. Market Codes (Operational Aspects)
 - Capacity Allocation and Congestion Management
 - Electricity Balancing
 - Forward Capacity Allocation
9. Metering Code
10. Training Code

Plus two (2) Additional Documents:

11. Glossary of Terms
12. Planning Document

Each Component of the GMS Code is composed of:

- The elementary Code;
- History of its development, including trace of comments, Consultant's responses and consideration or rejection.

Objectives of the Regional Grid Code

- The objective of the Regional Grid Code is to establish the **rules** and **procedures** that allow independent parties **to use the power system** and to permit the **power system to be planned and operated**.

- To achieve this, the Regional Grid Code must:
 - Be objective, transparent, non-discriminatory, consistent with Inter Government Agreements;
 - Define the obligations and accountabilities of all the parties; and
 - Ensure that the relevant information is made available.

2. GMS GRID CODE ASSESSMENT

APPROACH

- ***Step 1: Analysis of the GMS Grid Code Compliance Requirements***
 - Institutional – Legal aspects
 - Regulatory aspects
 - Technical aspects
- ***Step 2: Analysis of the “Third Party Access” Requirements***
 - Pre-requisite conditions for applying “Third Party Access”
- ***Step 3: Analysis of the GMS Grid Code versus National Grid Codes Requirements***
 - Considered assumptions
 - Comparisons with 4 National Grid Codes (Cambodia, Laos, Thailand and Vietnam)
- ***Results***

❑ Institutional – Legal Pre-requisites

- “Third Party Access” outlined in the GMS Grid Code requires organization and restructuring of the electricity sector in each of the GMS Country: at least functional separation of Generation, Transmission, System Operation and Distribution.
- Update of national legal frameworks and standards aiming at respecting the principles of transparency, proportionality and non-discrimination.
- Legal enforcement mechanism of the GMS Grid Code is established and adopted.
- Dispute resolution mechanism is adopted and applied at GMS level.
- Mechanisms for imposing sanctions when non-compliance is proven, are operational.
- Necessity to set-up a body in charge of inspecting, controlling and delivering compliance certificates when required at national level.
- Establishment of the RPCC (Regional Power Coordination Centre) which plays a central role in the GMS Grid Code Management.

□ Regulatory Pre-requisites

- Compliance monitoring mechanism, rules and procedures are developed and applied in the GMS Member States.
- Full compliance between national Grid Code and GMS Grid Code.
- National regulatory authorities shall be entitled to grant exemptions / derogations.
- Criteria and procedures for issuing exemptions by the National Regulatory Authorities (NRAs) shall be established.
- Synchronous Area Operational Agreements / Multi-party agreement and Confidentiality Agreements are developed by all Parties and approved by NRAs.
- Common methodologies required for harmonization and coordination by the GMS Grid Code are developed by all Parties and approved by NRAs.
- The LFC Structure for the Synchronous Area and the Process Responsibility Structure are defined and adopted.

❑ Technical Pre-requisites

- Review and update of National Standards for compliance with GMS Performance Standards and GMS Grid Code.
- Compliance check mechanisms are put in place and effective at national level to respond to the minimum requirements of the Connection Code.
- National Dispatch Centres are equipped with up-to-date SCADA/EMS tools and facilities including AGC, contingency analysis and dynamic security analysis functions.
- Update of national operating procedures for compliance with GMS Grid Code and national Grid Codes after update.
- Establishment of National System Defence Plans.
- A standardized methodology for coordinating Operational Security Analysis is established for the Synchronous Areas and adopted.
- Methodology determining relevant assets for the outage coordination process is established and adopted.
- Coordinated Dynamic Stability Analysis is performed on the Synchronous Area level.
- Establishment of the Common Grid Model.

❑ **Contractual Pre-requisites**

- Development and update of terms and conditions of the contractual framework – Contracts between Market Players & establishment of Contract Models.
- Ad hoc contracts shall be signed between TSOs and Significant Grid Users (Generating Facilities, DSOs, Eligible Customers) reflecting the GMS Grid Code requirements.
- Contractual framework shall be established for connection, use of transmission assets and provision of Ancillary Services and Balancing Services to comply with the prescription of the GMS Grid Code and the national Grid Codes after update.

Step 2 – Pre-requisite Conditions for Effective Operationalization of Regional Power Trade

- **Required by the Roadmap of MOU-2 during Stage 1 to prepare for moving to Stage 2**, i.e. when trading will be possible between any pair of GMS countries, eventually using transmission facilities of a third regional country:
 - ***Allow Third Party Access*** in interconnections, giving priority to contracts/PPAs.

- To make the regional market function effective, the Legal and Institutional Frameworks of national markets should include (as a minimum requirement):
 - A ***modern Electricity Law*** and ***applicable Secondary Legislation*** (regulations, orders), that take into consideration the unbundling of the power sector (at least functional separation), and the rights of third-party access to the grid without discrimination;
 - A ***Regulatory Body*** (ideally independent) to regulate and control the national market and verify if access to grid right is properly implemented.

➤ ***Pre-requisite Conditions at National Level:***

- A ***national legislation*** that mandates ***open access, competition, and non-discriminatory access*** to the power grid at national level;
- National ***secondary legislation*** for an effective, competitive and non-discriminatory market.
- National ***legal or functional unbundling*** introducing a competitive wholesale market component.
- A national professionally ***strong, independent, and credible regulatory body***.
- National ***independent*** and efficient transmission ***system operators*** (TSOs).
- A ***cost reflective***, efficient, and transparent ***transmission and distribution pricing***.
- A national transparent system planning process.
- A transparent exchange of information at national and regional level.

➤ ***Pre-requisite Conditions at Regional Level:***

- Development of Regulations, Codes and Guidelines.
- Enabling Regional Market Structure.
- Technical Requirements: safeguard of the integrity of the cross-border transmission network; connection rules; regional Grid Code; Master Plan; synchronization of national power systems.
- Financial and Tariff Requirements: a transparent, fair and cost reflective tariff methodology for Cross-Border Power Trade.

Step 3 – Gap Assessment of Regional Grid Code versus National Grid Codes

➤ 4 National Grid Codes have been analyzed:

| GMS COUNTRY | CAMBODIA | CHINA | LAOS | MYANMAR | THAILAND | VIETNAM |
|-----------------------|------------|-------------------------|-------------------|-------------------|------------|------------|
| Independent Regulator | Yes | Yes | No ⁽¹⁾ | No ⁽²⁾ | Yes | Yes |
| Grid Code | Yes (2009) | Yes (but not available) | Yes (2008) | No | Yes (2012) | Yes (2016) |

Notes: The regulatory role is played by a strong administration in (1) Laos (MEM – DEPP); and (2) Myanmar (MoEE – ERC).

- No verification could be carried out on the existing operating conditions of the national power systems compare to the requirements of their respective national Grid Codes.
- It is assumed that the National Regulatory Authorities have checked the level of compliance.

➤ **GMS Grid Code Technical Requirements for:**

- Connection
- Operational Security
- Operational Planning & Scheduling
- Load Frequency Control and Reserves
- Emergency and Restoration
- Capacity Allocation and Congestion Management
- Electricity Balancing

Have been compared to the Technical Requirements of the **national Grid Codes of Cambodia, Laos, Thailand and Vietnam.**

1. **Third-Party Access.** The Regional Grid Code is the legal instrument required to establish an efficient organization and operationalization of the regional Power Trade based on the “Third Party Access” Rule. MOU-2 (2008) and its associated Roadmap for transiting from Stage 1 to Stage 2 of the Regional Power Trade require the implementation of the “Third Party Access” Rule in the GMS Member Countries. An effective and efficient operationalization of the regional electricity market requires also to adopt and implement the Third Party Access Rule in interconnections.
2. **Sector Reforms.** The GMS Countries are at different transitional stages towards full implementation of the electricity sector reforms. They are still restructuring their electricity sector.
3. **Institutional – Legal and Regulatory Gaps.** There are gaps when comparing the requirements of the national Grid Codes with the requirements of the GMS Grid Code. Therefore, moving in the direction requested by MOU-2 and its Roadmap, i.e. restructuring and opening Third Party Access to cross-border trade, shall progressively release the Institutional and Regulatory Barriers identified in the Steps 1 & 2 of the Gap Assessment analysis.

4. **New Processes and new Practices.** The adoption of the “Third Party Access” Rule induces setting up and adopting new Processes and Practices, which were not required in the previous “vertically integrated” organization of the sector. The are related to the introduction of the Ancillary Services Market and the Electricity Balancing Markets, which are both managed by the TSOs.
5. **Complete Restructuring.** The restructuring of the electricity sector and the introduction of the new practices will progressively remove the identified gaps.

- 7. Technical gaps.** Technical gaps have been identified, caused by non-compliance with the GMS Performance Standards. There is no specific technical difficulty to fulfill these gaps. They could be fulfilled by:
- Increasing progressively the generation capacities and the reserve capacities (for example: to comply with the maximum frequency deviation tolerance of 200 mHz under normal conditions and later to 50 mHz; to limit the maximum steady-state frequency deviation after contingency to 250 mHz).
 - Reinforcing the transmission and distribution network capacities to comply with the other Performance Standards.
 - Upgrading the control facilities with modern SCADA/EMS functions will also allow to fulfill some technical gaps like AGC, dynamic stability analysis, etc.
- 8. Technical gaps.** These gaps can be addressed quickly but probably at appreciable costs. Therefore, as fulfilling these gaps is mandatory just prior interconnecting the national power systems, it is recommended to plan and compensate the gaps progressively taking into consideration the targeted deadline for interconnection.

9. **Gaps caused by the expansion of the Synchronous Zone.** Other technical gaps have also been identified, but caused by the expansion of the synchronous operation zone in the GMS Region.
10. **New Methodologies – Processes – Procedures – Rules.** This expansion requires developing and adopting new methodologies, coordination processes, procedures and rules among the TSOs which were not necessary before. Among those new processes, we can note the following:
 - Methodology for coordinating Operational Security Analysis
 - Methodology determining relevant assets for the outage coordination process
 - Coordinated Dynamic Stability Analysis is performed on the Synchronous Area level
 - Establishment of the Common Grid Model
 - Emergency & Restoration Plans
11. **Operational Security.** These requirements are new and caused by the necessity of improving drastically the operational security of the synchronous zone.

- 12. Sector Restructuring & Expansion of the Synchronous Zone.** In consideration of the above mentioned results and in consideration of the complexity of the issues to be addressed by individual GMS Countries, it is necessary to accompany each GMS Country in the restructuring process, in the change of practices caused by both the restructuring and the expansion of the synchronous zone.
- 13. Major Capacity Building Programme.** To guarantee an efficient global change, it is recommended to undertake a major capacity building programme with a country-by-country follow-up process to monitor and control the progress achieved and, therefore ensure that the targeted deadline for interconnection will be respected.

3. ENFORCEMENT OF THE GMS GRID CODE

NEED FOR NATIONAL INDEPENDENT REGULATORY AUTHORITIES

- Only four (4) GMS Countries have independent Regulatory Authorities: Cambodia (EAC), China (NEA), Thailand (ERC) and Vietnam (ERAV).

| GMS COUNTRY | CAMBODIA | CHINA | LAOS | MYANMAR | THAILAND | VIETNAM |
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Notes:

The regulatory role is played by a strong administration:

- (1) Laos (MEM – DEPP)
- (2) Myanmar (MoEE – ERC)

REGIONAL POWER TRADE INSTITUTION

- There is **no Regional Power Trade Institution** outside the mandate and responsibility given by the GMS Heads of States and Government to the GMS Ministers responsible for electricity, for policy direction and supervision of regional power trade.
- The GMS Ministers responsible for electricity have established the high-level body, the **RPTCC** (Regional Power Trade Coordination Committee) to actively **coordinate for successful implementation of regional trade** and to represent the interest of the countries involved in regional power trade.
 - ✓ The **RPTCC** has **no legacy nor mandate** to enforce at regional level decision regarding regional power trade organization.
 - ✓ The RPTCC only reports to the **GMS Ministerial Level Conference** and the respective national governments through the Ministers who can make decisions in their respective countries.

NEED FOR GRID CODE SECRETARIAT AND GRID CODE REVIEW PANEL

- In 2013, an **Inter-Governmental MOU** was signed to establish the Regional Power Coordination Centre (RPCC). No other solution was identified at that time for the enforcement of a decision at the regional level.
- Therefore, the same solution – Inter-Government MOU is recommended to enforce the GMS Grid Code at regional level. The IG-MOU shall cover both the adoption of the GMS Grid Code, and the organization for its management, review and update.
- Following is proposed to establish under the same IG-MOU:
 - ✓ the GMS Grid Code Secretariat, and
 - ✓ the Grid Code Review Panel.
- Signing the IG-MOU by the responsible Ministers, will allow the GMS Grid Code enforceable at national level in consideration of the obligations given to the National Regulatory Authorities (NRA) in each individual codes, to adopt the processes, procedures and rules and to ensure that they are applied by all market players.



NEED FOR REGIONAL ELECTRICITY REGULATORY AUTHORITY

- Another need is the establishment of a Regional Electricity Regulatory Authority, which would allow to enforce the other regional regulations that shall also be adopted to complete the regional regulatory framework (methodology for transmission tariffs, regional market rules, etc.).

4. WGPO WORK PLAN GRID CODE ENFORCEMENT AND OPERATIONALIZATION OF THE SYNCHRONOUS ZONE

WGPO TASKS:

- **Tasks 5 to 8 are related to regional Synchronous Operation and GMS Grid Code activities**
- **Task 9 and 10 are related to Strategic Planning activities**

Tasks related to Operation and Grid Code

| Tasks related to Operation | Initial Schedule |
|---|------------------|
| <ul style="list-style-type: none"> ▪ Task 5 - Establish an implementation roadmap of the regional GMS Grid Codes including enforcement measures, review mechanism and structure, gap assessment for national-regional compliance and identification of mitigation measures. | June 2020 |
| <ul style="list-style-type: none"> ▪ Task 6 – Establish an organization for the operationalization of the GMS synchronous areas including LFC organization and structure, operational agreements, methodologies, processes and procedures. | June 2021 |
| <ul style="list-style-type: none"> ▪ Task 7 – Establish the design of the regional electrical ITC system (Electronic Highway) allowing a safe and secure exchange of data and information among GMS market operators and the RPCC. | June 2021 |
| <ul style="list-style-type: none"> ▪ Task 8 – Establish an ad-hoc Metering Organization and Architecture allowing an appropriate settlement of power exchange in the GMS, including meter equipment on tie-lines and a centralized data processing systems. | Dec 2021 |

Tasks related to Strategic Planning

| Tasks related to Strategic Planning | Initial Schedule |
|---|------------------|
| <ul style="list-style-type: none"> ▪ Task 9 – Provide guidance to establish GMS regional Master Plan including review and adoption of strategic planning criteria, regional simplified network model and establishment of a regional database for periodical review thereafter. | Middle of 2020 |
| <ul style="list-style-type: none"> ▪ Task 10 – Assess new Interconnection Projects and manage the portfolio | Middle of 2020 |

Task 5 - “*Establish an Implementation Roadmap of the Regional GMS Grid Code*”

T5.1 Enforcement of the GMS Grid Code

- Establish the Inter-Governmental MOU to adopt the GMS Grid Code.
- Set up of the governance structure for management of the GMS Grid Code including the **Grid Code Secretariat** and the **Regional Grid Code Review Panel** with effective set-up of RPCC.
- Present to RPTCC for comments and adoption.

Requires TA support provided by an Institutional Expert for 20 Person-Days

T5.2 Detailed Assessment of National Technical Framework for Compliance with the GMS Performance Standards; and Harmonization of the Operational Practices.

- Technical Assessment of Generation, Transmission and Distribution facilities to respond to the GMS Performance Standards and technical requirements of the GMS Grid Code.
- Propose technical remedial measures with estimated costs and implementation plan.
- Present to RPTCC for comments and adoption.

Requires TA support provide by Generation, Transmission, and Distribution Experts – Ideally 3 Experts for 30 Person-Days for each Expert (total 6x30 Person-Days).

T5.3 Operational Processes, Procedures and Rules for compliance with the GMS Grid Code

- Assess existing national operational Processes, Procedures and Rules for compliance with the GMS Grid Code required practices;
- Develop new required Processes, Procedures and Rules to comply with the required practices prescribed by the GMS Grid Code for national purposes (security analysis, outage scheduling, national grid model, LFCR methodology and procedures, Defense and Restoration plans, Balancing Mechanism, etc.).
- Propose technical remedial measures with estimated costs and implementation plan.
- Present to RPTCC for comments and adoption.

Requires TA and Capacity Building support provided by three Technical Experts: System operation expert, Transmission expert, ITC expert for a total of 6x45 person-days.

T5.4 Mechanism for Compliance Monitoring of the GMS Countries

- Develop a mechanism for compliance monitoring of the GMS countries at regional level.
- Present to RPTCC for comments and adoption.

Requires TA support provided by a regional Technical Expert experienced in supervision and coordination for 50 person-days/year for 2 to 3 years.

Task 6 - “Establish an Organization for the Operationalization of the GMS Synchronous Areas”

“Establish an organization for the operationalization of the GMS synchronous areas including LFC organization and structure, operational agreements, methodologies, processes and procedures”

[For these activities, it is highly recommended to have the participation of the RPCC]

T6.1 LFC Organization and Structure

- Assess LFCR capacities in each of the GMS countries.
- Set up LFC organization and structure for the GMS Region in collaboration with the TSOs of GMS countries.
- Present to RPTCC for comments and adoption.

Requires TA and Capacity Building support provided by a Power System Expert for 45 Person-Days.

T6.2 Synchronous Area Operational Agreement

- Assess the LFCR practices and needs in each of the GMS countries.
- Establish proposed Synchronous Area Operation Agreement in collaboration with TSOs of GMS Countries.
- Present to RPTCC for comments and adoption.

Requires TA and Capacity Building support provided by a Power System Expert for 45 Person-Days.

T6.3 Multi-Parties Operational Agreements (LFC Block Operational Agreements, LFC Area Operational Agreements, Monitoring Area Operational Agreements, Cross-Border FRR Activation Agreement, Cross-Border RR Activation Agreement, Sharing Agreement, Exchange Agreement, etc.)

- Assess the needs in terms of Multi-Parties Operational Agreements to be established.
- Establish proposed Multi-Parties Operational Agreements in collaboration with TSOs of the concerned member countries.
- Present to RPTCC for comments and adoption.

Requires TA and Capacity Building support provided by a Power System Expert for 60 person-days.

T6.4 Establishment of common methodologies for:

- ***Coordinating Operational Security Analysis in each Synchronous Areas***
 - ***Establishing seasonal peak generation adequacy outlooks***
 - ***Assessing the relevance of power generating units, demand facilities, and grid elements for the Outage Coordination Process***
 - ***Transmission capacity calculation***
 - ***Definition of the Low Frequency Demand Disconnection Scheme***
-
- Assess the current practices to take into consideration the specificities of each GMS member country.
 - Establish proposed common methodologies in collaboration with the TSOs of the concerned member Countries.
 - Present to RPTCC for comments and adoption.

Requires TA and Capacity Building support provided by a Power System Expert for 60 Person-Days.

T6.5 Establishment of Coordination Procedures for:

- ***Common Operational Security Analysis***
 - ***Regional Outage Coordination***
 - ***Coordination for Recovery and Restoration***
-
- Assess current practices to take into consideration the specificities of each GMS member country.
 - Establish proposed coordination procedures in collaboration with the TSOs of the concerned member countries.
 - Present to RPTCC for comments and adoption.

Requires TA and Capacity Building support provided by a Power System Expert for 60 Person-Days.



Task 7 of WGPO - “Establish the design of the Regional ITC System (Electronic Highway)”

“Establish the design of the Regional ITC System (Electronic Highway) allowing a safe and secure exchange of data and information among GMS Market Operators and the RPCC”

[For these activities, it is highly recommended to have the participation of the RPCC]

T7.1 Preliminary Design of the Regional ITC System (Electronic Highway)

- Assess ITC systems in use in the GMS Countries (protocol, capacities, speed, etc.).
- Assess future needs in terms of capacity flows of data – information exchange, required speed, security of exchange to preserve the confidentiality of the information, recommended protocol, etc.
- Set up Preliminary Design of the Regional ITC System for Data & Information Exchange in collaboration with the TSOs of the member countries.
- Present to RPTCC for comments and adoption.

Requires TA and Capacity Building support provided by a Power System Expert and an ITC Expert for a total of 40 Person-Days.



Task 8 of WGPO - “Establish an ad-hoc Metering Organization and Architecture”

[For these activities, it is highly recommended to have the participation of the RPCCC]

T8.1 Preliminary Design of the Metering Organization and Architecture

- Assess the existing Metering Organization and Architecture in use in the GMS Countries.
- Assess the future needs in terms of power and energy metered data on the interconnection tie-lines, meter specifications, centralized data processing system to be developed, necessary back-up and remote reading systems, security of data exchange to preserve the confidentiality of the information, protocol, etc.
- Set up the Preliminary Design of the Metering Organization and Architecture to be developed in the GMS Region, taking into consideration the central role played by the RPCCC, in collaboration with the TSOs of the member countries.
- Present to RPTCC for comments and adoption.

Requires TA and Capacity Building support provided by a Power System Expert and an ITC Expert for a total of 40 Person-Days.

| TASK / Activities | GMS Region / GMS Countries | Number of Experts | Person/D ays | TA-CB |
|---|---------------------------------------|------------------------------|-----------------------------|--------------|
| T5 - Implementation roadmap of the regional GMS Grid Code | | | | |
| T5.1 - Enforcement of the GMS Grid Code | GMS Region | 1 | 20 | TA |
| T5.2 - Detailed assessment of national technical framework for compliance to the Performance Standards and harmonization of the operational practices | GMS Countries | 3 | 30 (6 x 30) | TA-CB |
| T5.3 - Operational Processes, Procedures and Rules for compliance with the GMS Grid Code for national purposes | GMS Countries | 3 | 45 (6 x 45) | TA-CB |
| T5.4 - Mechanism for compliance monitoring of the GMS Countries | GMS Region | 1 | 50/Year for 2-3 years | TA |

| TASK / Activities | GMS Region / GMS Countries | Number of Experts | Person/D ays | TA-CB |
|--|---------------------------------------|------------------------------|-------------------------|--------------|
| T6 - Establish an organization for the operationalization of the GMS synchronous areas | | | | |
| T6.1 - LFC Organization and Structure | GMS Region | 1 | 45 | TA-CB |
| T6.2 - Synchronous Area Operational Agreement | GMS Region | 1 | 45 | TA-CB |
| T6.3 - Multi-Parties Operational Agreements | GMS Region | 1 | 60 | TA-CB |
| T6.4 - Establishment of common methodologies | GMS Region | 1 | 60 | TA-CB |
| T6.5 - Establishment of Coordination Procedures | GMS Region | 1 | 60 | TA-CB |

| TASK / Activities | GMS Region / GMS Countries | Number of Experts | Person/D ays | TA-CB |
|--|---------------------------------------|------------------------------|-------------------------|--------------|
| T7 - Establish the design of the Regional ITC System | | | | |
| T7.1 - Preliminary Design of the Regional ITC System | GMS Region | 2 | 40 | TA-CB |

| TASK / Activities | GMS Region / GMS Countries | Number of Experts | Person/D ays | TA-CB |
|---|---------------------------------------|------------------------------|-------------------------|--------------|
| T8 - Establish an ad-hoc Metering Organization and Architecture | | | | |
| T8.1 - Preliminary Design of the Metering Organization and Architecture | GMS Region | 2 | 40 | TA-CB |

| TASKS | Total Person/Days |
|--|---|
| T5 - Implementation roadmap of the regional GMS Grid Code | 470 + 50/Year for Follow-up during 2-3 years |
| T6 - Establish an organization for the operationalization of the GMS synchronous areas | 270 |
| T7 - Establish the design of the Regional ITC System | 40 |
| T8 - Establish an ad-hoc Metering Organization and Architecture | 40 |

**THANK YOU VERY MUCH FOR
YOUR ATTENTION**