



Request for Proposal (RfP)

Provision of the ASEAN Interconnection Masterplan Study (AIMS) III

Proposal in the sealed envelope must be delivered to:

AIMS III Project Manager
ASEAN Centre for Energy (ACE)
ACE Building, 6th Floor
Jl. H.R. Rasuna Said Block X-2, Kav.07-08
Jakarta 12950

and must be received as the latest by:

Friday, 9 March 2018 before 17.00 (Jakarta Time)

including complete electronic copy to AIMS@aseanenergy.org

Prepared by: ASEAN Centre for Energy

The ASEAN Centre for Energy is a subcontractor to Abt Associates, Inc., implementing partner for USAID Clean Power Asia, under contract number AID-486-C-16-00001.

Date: 5 February 2018

Question or request for clarification on RfP can be made via email at AIMS@aseanenergy.org and phone call: +62 21 527 9332, attention: AIMS III Project Manager, minimum three (3) days prior to the requested schedule.

Sessions are available every Tuesday and Thursday, 9 am to 5 pm (Jakarta time; GMT+7) from 12 February to 1 March 2018.

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1. INTRODUCTION

1.1 About ACE

Established on 1 January 1999, the ASEAN Centre for Energy (ACE) is an independent intergovernmental organisation within the Association of Southeast Asian Nations' (ASEAN) structure that represents the 10 ASEAN Member States' (AMS) interests in the energy sector. The Centre accelerates the integration of energy strategies within ASEAN by providing relevant information and expertise to ensure the necessary energy policies and programmes are in harmony with the economic growth and the environmental sustainability of the region.

It is guided by a Governing Council composed of Senior Officials on Energy from each AMS and a representative from the ASEAN Secretariat as an ex-officio member. Hosted by the Ministry of Energy and Mineral Resources of Indonesia, ACE's office is located in Jakarta.

On 26 May 2015, ACE Governing Council endorsed the business plan of an enhanced ACE; a high-performing institution and a regional centre of excellence which builds a coherent, coordinated, focused and robust energy policy agenda and strategy for ASEAN.

Three critical roles of the enhanced ACE are:

1. As an ASEAN energy think tank to assist the AMS by identifying and surfacing innovative solutions for ASEAN's energy challenges on policies, legal & regulatory frameworks and technologies.
2. As a catalyst to unify and strengthen ASEAN energy cooperation and integration by implementing relevant capacity building programmes and projects to assist the AMS develop their energy sector.
3. As the ASEAN energy data centre and knowledge hub to provide a knowledge repository for the AMS.

Further information about ACE is available at www.aseanenergy.org.

1.2 Background

ASEAN recognises the critical role of an efficient, reliable and resilient electricity infrastructure in stimulating regional economic growth and development. To meet the growing electricity demand, huge investments in power generation capacity will be required. In recognising the potential advantages to be gained from the establishment of integrated systems, ASEAN established the electricity interconnecting arrangements within the region through the ASEAN Power Grid (APG) under the ASEAN Vision 2020 adopted in the Second ASEAN Informal Summit in Kuala Lumpur on 15 December 1997.

Heads of ASEAN Power Utilities/Authorities (HAPUA), as ASEAN's official Specialised Energy Body under the ASEAN Plan of Action for Energy Cooperation (APAEC), is tasked to ensure regional energy security by promoting the efficient utilisation and sharing of resources. Further information about HAPUA is available at www.hapua.org.

The main objectives of establishing the APG are:

- To promote more efficient, economic, and secure operation of power systems through harmonious development of national electricity networks in ASEAN by region-wide interconnections;
- To optimise the use of energy resources in the region by sharing the benefits;
- To reduce capital required for generation capacity expansion;
- To share experiences among member countries; and
- To provide close power cooperation in the region.

The construction of the APG is first done on cross-border bilateral term, then expanded to a sub-regional basis and finally to a total integrated regional system. It is expected to enhance electricity trade across borders which would provide benefits to meet the rising electricity demand and improve access to energy services in the region.

As the basis for this regional planning and development on the APG, HAPUA has conducted the study, entitled "The ASEAN Interconnection Master Plan Study (AIMS)". The study proposed a comprehensive plan of regional transmission network that links ASEAN power systems. The first study (AIMS I) was completed in 2003 and the second study (AIMS II) was completed in 2010.

Since then, the energy landscape in the region has changed. AMS are continuously facing the challenge in fulfilling the energy demand as it growth significantly and expected to continuously growth by 5-6% per year in the coming decades. As the economic situation, electrical demand and energy requirements, additional generation/transmission facilities, national Electricity Supply Industry (ESI) structures and policies on energy in each AMS; the emergence of new generation and transmission technologies have evolved, AIMS II is no longer valid for the region in pursuing the collaborating via transboundary power trade.

In addition to that, AIMS II is also not able to explore the utilisation of the renewable energy source as ASEAN indigenous resource at maximum level, responding to the direction from the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2025 which was endorsed by the 33rd ASEAN Ministers on Energy Meeting (AMEM) in September 2015, in Kuala Lumpur, Malaysia.

The ASEAN Energy Outlook (AEO5)¹, which is used as the primary reference for regional policy making, identified that for ASEAN to achieve its aspirational target for component of renewable energy (RE) to 23% by 2025 in its energy mix; 15% is expected coming from electricity generation in power sectors, 5.5% from biofuels in transport and 2.5% modern

¹ The 5th ASEAN Energy Outlook (AEO5), a flagship publication of the ASEAN Centre for Energy (ACE), which was launched by the Philippine Secretary of Energy, Alfonso G. Cusi, in Manila, the Philippines on 28 September 2017 during the 35th ASEAN Ministers on Energy Meeting (AMEM). Detail information can be found at <http://www.aseanenergy.org/resources/the-5th-asean-energy-outlook/>

biomass in industries. These 15% contribution from power sector in energy mix is achieved only if 42% generated power in 2025 is coming from renewable energy, about two times of the then the current share (21.6% in 2015).

AEO5 also identified that understandably significant amount of investments is required to fulfil the growing demand on electricity. To reach ASEAN's 23% RE target by 2025 in ASEAN Progressive Scenario (APS) will require an estimated total investment over the period of USD 214.3 billion to install 145.3 GW of total added capacity. Considering the future trend on the cost, both on fossil fuel and also RE, it is very important for AMS to have proper planning on the investments for the power sector, particularly in reaching the ASEAN RE target in the most sustainable way.

On the vision for enhancing energy connectivity and market integration, HAPUA concluded that it had become necessary to conduct a third study of ASEAN Interconnection Master Plan – called as the AIMS III – and updated version of the AIMS II (2010). Furthermore, the 20th APG Consultative Committee (APGCC) Meeting considered and discussed the possibility of updating the AIMS, in which then noted and endorsed by the 35th ASEAN Ministers on Energy Meeting 27 September 2017 in Manila, the Philippines.

The 26th HAPUA Working Committee Meeting, November 2017 in Nay Pyi Taw, Myanmar, appointed ACE as the implementing agency for this study. Furthermore, the working plan has been presented and endorsed by Special Senior Official Meeting on Energy (SOME) on 30 January 2018 in Manila, the Philippines.

ACE, through the contract under USAID Clean Power Asia, is expecting to engage consultancy firm/individual consultant. Through this Request for Proposal (RfP) document, ACE is inviting the proposal from the interested qualified consultancy firm/individual consultant.

2. PROJECT SCOPE OF WORKS

2.1 Project Types

Project Name

Project name is “Provision of the ASEAN Interconnection Masterplan Study (AIMS) III”.

Type of Contract

- Type of contract is project-based contract.
- Contract award criteria is Best Value Criteria.
- Contract will be awarded to the highest score based on weighting criteria. If two or more candidates have the same score, the lowest price is selected.

2.2 Objectives and Expected Outcomes

The objectives of the AIMS III are:

1. To provide the new and updated plan of the APG to be used as the main reference for AMS in pursuing the development of a high-level plan for the realisation of multilateral power trading.
2. To provide the comprehensive feasibility study, design and implementation in delivering a fully operable bilateral and multilateral power trading in the region with high utilisation of all types of renewable energy as ASEAN indigenous resource to achieve 23% renewable energy in energy mix which directed by the APAEC 2016-2025, while maintaining the system reliability and power quality.
3. To enhance the energy connectivity and market integration in ASEAN to achieve energy security, accessibility, affordability and sustainability for all.

The expected outcomes of this study are, among others, as follow:

- To identify the number of possible Renewable Energy (RE) based power plant in the APG system.
- To analyse the investment of the RE based power plant in cross-border trading/multilateral trading in APG interconnection.
- To achieve a more efficient utilization of ASEAN energy resources, connecting countries with RE power generation or other surplus generation capacity to countries facing a deficit within region.
- To accelerate the development of RE target implementation in power sector.

- To make a firm basis in attracting the developers of renewable energy, which is resulting in mobilizing the investment for RE on APG system. This study will provide comprehensive backgrounds on how RE could also be incorporated in the APG system and traded whether it is in cross-border system or multilateral system.
- To reduce the higher cost investment in country (if they built their own installed capacity and transmission lines) and save the country reserves to meet its peak demand in bordering area.
- To initiate the RE market/business model/financing scheme in APG and to improve the technical or regulatory framework for integrating variable renewable energy into the grid within the region.

Output of this study is the official document of the ASEAN Interconnection Masterplan Study (AIMS) III which is targeted to be submitted to the HAPUA Council and then reported to the Senior Official Meeting on Energy (SOME) and the ASEAN Ministers on Energy Meeting (AMEM) for the official endorsement at the 37th AMEM in September 2019. Full Report of the ASEAN Interconnection Masterplan Study (AIMS) III, including all technical calculations and modelling programme are the property of AMS.

2.3 Methodology

The methodology in conducting the study will consist, but not limited to: desk research for qualitative analysis with the appropriate power system planning tools and other related tools, modelling electricity supply and demand at national and regional level towards the creation of multilateral power trade, interviews to the relevant sources, and several focus group discussion (FGD) with Working Group Members and related stake holders.

2.4 Working Mechanism

ACE will act as the implementing agency in conducting the AIMS III study, under the support of the United States Agency for International Development (USAID) Clean Power Asia.

Through the engagement with the consultancy firm/individual consultant, ACE will collaborate with HAPUA Secretariat to support the national experts from AIMS III Working Group Members.

AIMS III Working Group will be established with the following members:

- ACE – as the implementing agency
- HAPUA Secretariat
- HAPUA Working Group 2 Chairman
- Two (2) Experts from every HAPUA Working Group:
 - HAPUA Working Group No. 1 – Generation and Renewable Energy

- HAPUA Working Group No. 2 – Transmission/APG
- HAPUA Working Group No. 3 – Distribution and Power Reliability & Quality
- HAPUA Working Group No. 4 – Policy Studies and Commercial Development
- HAPUA Working Group No. 5 – Human Resources
- Two to four (2-4) National Experts from every AMS: utilities and policy makers

As the implementing agency, ACE will also lead the process for collaboration and harmonisation with other parties involving related existing and incoming studies on APG, such as with Asian Development Bank (ADB) on its work for Power Cooperation in Greater Mekong Sub-region and the East ASEAN Growth Area (BIMPT-EAGA), and International Energy Agency (IEA).

Supported by HAPUA Secretariat and HAPUA Working Group No. 2, ACE to submit and present the report in related official meetings (APG Special Task Force, APGCC, HAPUA Council, SOME, AMEM) for guideline and endorsement.

AIMS III Working Group will work with the selected consultancy firm/individual consultant to perform AIMS III.

Selection for the consultancy firm/individual consultant will be carried out by ACE under consultation with HAPUA Secretariat, HAPUA Working Group No. 2 and USAID Clean Power Asia.

2.5 Scope of Work

The consultancy firm/individual consultant shall be responsible for the following tasks, but not limited to, subject to the discussion and approval of ACE:

A. General Tasks

- Develop the model of power trade and electricity market in the region, both at bilateral and multilateral (regional) levels.
- Lead the establishment and the collection of basic data and follow AIMS III process as required in the contract and analyse and interpret the data received such as existing power system models, regional power model, the station one-line diagrams and the power interconnection analysis.
- Write clear and concise results on the report and deliver high quality work on time.
- Regularly discuss, collaborate, correspond, and meet with the team to ensure that power system studies are completed on time and to the requirement and specification.
- Assist ACE and HAPUA in delivering the power system model analysis by depth and comprehensive approach.
- May include travel to AMS or regional meeting to collect data or discuss the valuable inputs for the system analysis model.

B. Detailed Task

- Discuss the scope of work and work schedule.

- In collaboration with AIMS III Working Group; collect, review and examine relevant data and information, among others, on:
 - AMS's interconnection plan and power development planning.
 - AMS's supporting policy and technical guideline.
 - AMS's geospatial renewable energy potential on variable renewable energy (vRE) and another renewable energy technologies.
 - Previous technical documents and arrangement from ACE, HAPUA and country' utilities.
 - A set of demand and supply forecasting and balancing, both for regional and national.
- Analyse the APG system using the appropriate analysis tools which result would conclude on the maximum of vRE integration in the APG, with the affordable prices applied in each of its trading. The consultant is required to:
 - Present and share the analysis tool – performed to maximise the RE potential to be utilised in the regional/multilateral power system.
 - Present economic analysis on the designated power grid system, with the detailed comparison of conventional energy.
 - Conduct a comprehensive socio-environmental analysis to support the use of VRE in the region
- Provide professional advice and recommendation, taking into consideration the different structures of power system, on the followings:
 - Performance standards, requirements and national grid codes.
 - National technical gaps, issues and differences.
 - Pricing, regulatory and management issues for the national power market.
 - Regional and multilateral vRE pilot projects and its sustainable integration.
- Identify the barriers and challenges for the vRE integration in the cross-border and multilateral electricity trading, among others but not limited to:
 - Pricing formulation and subsidies.
 - Regulatory and incentives roadmap and frameworks.
 - Reliability (taking attention in the intermittency and advanced RE forecasting) and grid integration.
 - Cross-border integrated power operation, third party access and its harmonisation.
 - Institutional capacity and financial capacity of the AMS.
- Participate at least at four meetings (preliminary, inception meeting, interim and final meetings) to collect data and to discuss findings, recommendations and conclusions in coordination with ACE, HAPUA and its Working Group Members.

For the AIMS tool, the consultancy firm/individual consultant should propose the modelling and analysis tool and approach for the study for the approval of ACE and HAPUA.

By conducting the aforementioned tasks, the selected consultant is expected to present AIMS III, including the result on how ASEAN could realise the maximum VRE integration in its regional interconnection, with the affordable prices for each country and recommended policies applied to support that implementation.

Several existing (and incoming) studies are developed to support the APG by ACE, HAPUA Working Group as well as various individual country studies shall be used as the references, including but not limited to the on-going study on the formation of the APG Generation and Transmission System Planning Institution (AGTP) and the APG Transmission System Operator Institution (ATSO) – (lead by Economic Research Institute for ASEAN and East Asia/ERIA), Feasibility Study for ASEAN Multilateral Power Trade – (lead by the International Energy Agency/IEA) and joint study on Pathways for Energy Interconnection in ASEAN: Accelerating energy transition for sustainable and resilient societies – (joint study by ACE and Global Energy Interconnection Development and Cooperation Organization/GEIDCO and United Nations Economic and Social Commission for Asia and the Pacific/UN ESCAP). ACE will facilitate the communication between consultant with various parties on the related study.

2.6 Timeline

The study is conducted within the time frame of the working programme and official meeting of the HAPUA, SOME and AMEM. The consultant's works will require the services of intermittent consulting services for 200-240 person-days over a period of at least ten (10) months in the year 2018/19.

The selection process of the consultant is expected to be concluded by [15 April 2018](#).

Table 1. Indicate Timeline for AIMS III Project

November 2017	Endorsement at HAPUA Working Committee Meeting
December 2017	Finalisation on TOR
January 2018	Plan presentation at Special SOME
January-March 2018	Engagement of the consultancy firm/individual consultant
March-April 2018	Approval Process
March 2018	Working Endorsement at HAPUA Council Meeting
Mid of April 2018	Contract Awarded to the Winner
End of April 2018	Preliminary Meeting; a 1-day meeting
May 2018	Inception Meeting; a 3-day meeting
June-July 2018	Consultant Visit to AMS
July-August 2018	Consultant Works on Interim Report
July 2018	Progress Report at 36 th SOME
September 2018	Meeting on Interim Report; a 3-day meeting
September-November 2018	Consultant Works on Final Report
December 2018	Meeting on Final Report; a 3-day meeting
January-February 2019	Finalization of the Report, including editing, etc.
March 2019	Endorsement by HAPUA Council Meeting
July 2019	Endorsement by SOME
October 2019	Presentation to the 37 th AMEM for approval.

*blue row indicates active participation of consultant.

The study shall convene at least 4 (fours) meetings to prepare the working plan, collect data and information from any available source and discuss findings, recommendations and conclusions in coordination with AIMS III Working Group.

Table 2. Indicative Timeline for Consultant Works

Preliminary Meeting with ACE, HWG2, HAPUA Secretariat and USAID Clean Power Asia	
Place	Jakarta/Bangkok
Timeline	2 (one) weeks after the consultant engaged in 1 day
Objective(s)	(i) To discuss the working plan and required process on the study (ii) To finalise the selection of modelling tools
Inception Meeting with AIMS III Working Group on Data Collection	
Place	Jakarta/Bangkok/In the side line of HAPUA Working Meetings
Timeline	1 (one) month after the consultant engaged in 3 days
Objective(s)	(i) To discuss methodology, processes, and work plan for the study, and to gather required information (ii) To collect data from National Experts
Country Visit (if needed)	
Place	All AMS capitals.
Timeline	2 (two) months after Inception Meeting
Objective(s)	Direct data collection and discussion
The Interim Report Submission by the consultant	
Place	
Timeline	3 (three) months after the Inception Meeting on Data Collection
Objective(s)	
Meeting on Interim Report	
Place	Jakarta/Bangkok/In the side line of HAPUA Working Meetings
Timeline	4 (four) months after the Inception Meeting in 3 days
Objective(s)	To report the progress and findings of the study, and to gather comments and suggestions from Working Group
The Draft Final Report Submission by the consultant	
Place	
Timeline	2 (two) months after Meeting on Interim Report
Objective(s)	
Meeting on Draft Final Report and Conclusions	
Place	Jakarta/Bangkok/In the side line of HAPUA Working Meetings
Timeline	3 (three) months after the Interim Meeting in 3 days
Objective(s)	To discuss and agree on recommendations for the study on the AIMS III, corresponding implementation plan, and the final report
Final Report Submission	
Place	
Timeline	1 (one) month after final meeting
Objective(s)	

2.7 Deliverables

Following the work plan, the consultant is expected to perform the high-quality deliverables in timely manner, following the requirement and schedule.

Activities	Deliverables and Timeline
Preliminary Meeting with ACE, HWG2, HAPUA Secretariat and USAID Clean Power Asia	
<ul style="list-style-type: none"> Discuss the selected tools Discuss the analysis and methodology Discuss the key assumptions and boundaries for the study Discuss the variables and required data Discuss the inception meeting agenda and presentation materials Evaluate and verify the tools 	<ul style="list-style-type: none"> ✓ Memo on the selected tools analysis and key assumptions/boundaries (23 April 2018) ✓ Three presentations: the selected tools, analysis approach and key assumptions/system boundaries (23 April 2018) ✓ Memo of required data lists and variables gathered from the AMS (23 April 2018) ✓ Memo in providing a suggestion/evaluation for selected tools (23 April 2018) ✓ Memo on the report and model structure (10 May 2018)
Inception Meeting with AIMS III Working Group on Data Collection	
<ul style="list-style-type: none"> Attend the inception meeting Prepare presentations on the selected tools Prepare the template of data requirements for AMS/ASEAN utilities Introduce the selected tools on the analysis to WG Members Provide a detail evaluation of the report structure, data gap analysis Prepare a travel planning to each AMS and budget estimation 	<ul style="list-style-type: none"> ✓ Final presentations on the selected tools (10 May 2018) ✓ Data standards for each AMS (10 May 2018) ✓ Initial data gap analysis after receiving AMS inputs (1 week after inception) ✓ Memo on Feedbacks and inputs for the selected tools after Inception Meeting (1 week after inception) ✓ Memo on Travel Planning and Agenda on AMS Visit (20 May 2018) ✓ Budget Estimation for Travel Planning (20 May 2018)
AMS Visit and Interim Meeting	
<ul style="list-style-type: none"> Discuss the interim report meeting agenda and presentation material Visit each AMS for data collection Prepare the interim draft report Analyse the inputs of data Present the first results to Working Group and obtain their feedbacks in the meeting Write the report of final data gap analysis Prepare presentations material for interim meeting 	<ul style="list-style-type: none"> ✓ A package of data collection from AMS (15 July 2018) ✓ A Report in final data analysis gaps and its solution from consultant (15 July 2018) ✓ A Memo in commenting agenda and presentation topics (15 May 2018) ✓ An Interim Report: Indicated Analysis Results, Methodology, Results on Tools Interface (Draft: 15 July 2018, Final: 30 July 2018) ✓ A Memo in collecting Working Group's inputs on methodology and analysis results (20 July 2018) ✓ A Visit Report: Budget Expenses, Invoices, the Data collections, AMS responses and

	<p>feedbacks on tools and data collection (20 July 2018)</p> <p>✓ Presentation materials for interim meeting (1 July 2018)</p>
Meeting on Draft Final Report and Conclusions	
<ul style="list-style-type: none"> • Discuss the final report meeting agenda and presentation material • Prepare presentations material for final meeting • Prepare the final draft report • Review and modify the analysis and calculations on the selected tools, in regard to incorporate interim review from Working Group • Present the final results to Working Group and obtain their final feedbacks in the meeting 	<ul style="list-style-type: none"> ✓ A Memo of final comments from Working Group (10 December 2018) ✓ A Memo of modification on final draft calculation in the selected tools (1 September 2018) ✓ A Memo in commenting final agenda (24 September 2018) ✓ Final Presentation materials (31 October 2018) ✓ A Memo in collecting Working Group's final inputs on methodology and analysis results (15 November 2018)
Report Finalisation	
<ul style="list-style-type: none"> • Gather the final inputs from Working Group • Write the final report • Collaborate to review on the last revision of the report • Finalise the contract and payment with the ACE and USAID 	<ul style="list-style-type: none"> ✓ Agreement on transferring all the documentations during this study such as all data collections, tool 's files to ACE (11 December or 1 week after final meeting) ✓ Final Report of AIMS III (Draft: 30 November 2018, Final: 10 December 2018) ✓ Memo on the Final Report's Review from ACE, HAPUA and USAID Clean Power Asia (20 December 2018) ✓ An approval letter from the HAPUA to acknowledge all the results as the final result of AIMS III (22 December 2018) ✓ List of Deliverable's Invoices on the AIMS III Project (5 January 2019)

3. RFP REQUIREMENT PROCESS

3.1 Communication and Reporting

All communication and reporting should be address to:

Beni Suryadi

Manager, Policy Research and Analytics (PRA) Department

ASEAN Centre for Energy (ACE)

Email: benisuryadi@aseanenergy.org, cc to AIMS@aseanenergy.org

Phone: +62 21 527 9332

The consultant shall work closely and report to ACE during period of contract and seeks input from ACE for content and contacts of key stakeholders in AMS using written and verbal communication. All communication to other parties related to the study should be channelled through ACE.

All reports to be submitted must be in English (United Kingdom), A4 format, Arial font 11, 1.15 spacing.

Minutes, guidelines, and reports produced within the scope of work by consultant is solely owned by ACE.

3.2 Consultant' Requirements

The consultancy firm/individual consultant should perform the works based on the designated scope of work under the coordination by ACE as the implementing agency for the AIMS III.

In order to perform the works, the consultancy firm/individual consultant should have extensive knowledge and experience in generation and transmission system planning, both at national level and regional level to develop a comprehensive plan of regional transmission network that links ASEAN power systems; bilateral and multilateral with high penetration of the grid-connected renewable energy. Consultant must also be knowledgeable in renewable energy, storage, weather systems, etc.

National experts (AIMS III Working Group Members) will provide information of the process and institutional structure of generation and transmission system planning of their own country including necessary inputs to the consultant on long-term generation optimisation study, network analysis and others for the purposes of this study.

The consultancy firm/individual consultant must have the power engineering analysis tools that will be used in designing the AIMS III. The tools must be comprehensive to address the main concern of AIMS III study for a multilateral power trade with higher penetration of renewable energy, providing the analysis on technical and economical point of view. The tools to be used by the consultant must be user-friendly for the ASEAN utilities (HAPUA) to use and adopt in their national planning.

Required criteria for the consultant as follow:

- ✓ Advanced level in using power engineering analysis software such as CYME, ETAP, ASPEN, PSSE and PLEXOS¹ or similar and advanced level in simulating the renewable energy penetration in power engineering analysis software is required.
- ✓ The members of the consultant team should in the minimum have master's degree, with minimum 20 years of experience in power system planning.
- ✓ The consultant team should have extensive knowledge and experience in generation and transmission system planning, not only at a national level but also at a regional level.
- ✓ The consultant team should have extensive knowledge and experience in technical standards and/or grid codes of power transmission systems in design, operation and maintenance, and technical specification of Transmission System Operation (TSO), not only at national level but preferably experience in regional development.
- ✓ Specialise in the power system analysis, simulation, optimization and the relevant studies such as system dynamic, economic analysis and renewable energy penetration for power systems
- ✓ Advanced level of knowledge and experience in renewable energy sector
- ✓ Strong background on power system concepts, experience of working on regional power modelling and analysis, experience of working on power plant, transmission and distribution system projects are required.
- ✓ Excellent verbal and written communication skills. Experience with power utilities in ASEAN are preferable.

3.3 Specification of inputs

(a) Period of Assignment

Period : April 2018 to January 2019 (ten working months)

Person-days : 200-240 person-days

Consultant shall commit to workplan within required deadline upon discussion with ACE and USAID Clean Power Asia during preliminary investigation phase. Adjustment to committed workplan, person-days, or other matters should be inquired and subject to written approval of ACE and USAID Clean Power Asia.

¹ The selection of the tool will be consulted with AIMS III Working Group for their approval as ACE and HAPUA are expecting the country will be able to use the model at their national work.

(b) Confidentiality Agreement, Copyright and Intellectual Property

Without any prior consent from ACE, consultant shall, in no case, disclose any data or information to external parties without written permission. All materials collected and produced under this assignment will belong to AMS and remain the property of AMS, in which ACE act as the custodian. All will be stored and managed by ACE. Consultant will not have any control over copyright claims and intellectual property.

(c) Proposal

On the submission of the AIMS III proposal, the individual consultant or the consultant firm supplying the individual consultant(s) must provide the following information:

- **Contact information.** Name, address, and phone number of the individual consultant(s).
- **Form of organisation.** Whether firm is a partnership, corporation, or sole proprietorship, where it is organized, and the names of principals, officers, and directors of the firm.
- **Key personnel.** Names of key personnel, their respective titles, experience, and periods of service with the firm.
- **Statement of qualifications.** A narrative or other statement by the firm of its qualifications for the proposed project.
- **Statement of confidentiality.** A narrative or other statement by the firm of its intention that all data used in this project are strongly protected to be not used for other projects/publications by the consulting firm. The data are solely intended to be used in this project only and the data right is fully owned by AMS representing by ACE. Any consequences about the faults of this confidentiality and all the related rules for the confidentiality issues shall be determined later.
- **Availability.** A brief statement of the availability of key personnel of the firm to undertake the proposed project and will not resign.
- **Project list.** List of projects and detail portfolio of the projects completed by the firm.
- **References.** Names and telephone numbers of persons whom the agency can call for references regarding the firm's past performance, preferably on similar projects.

Submitted proposal shall be valid until 15 April 2018.

The selected consultancy firm/individual consultant shall be committed to perform the services for a period from April 2018-January 2019.

4. COMPLIANCE

In conformance to the ACE Rules and Procedures, the interested consultant shall submit tender bids in one main sealed envelope with two sealed envelopes inside to the designated address, including the electronic copy to AIMS@aseanenergy.org:

(1) First Envelope

Technical Proposal shall consist, among others, of the technical specifications of the services (methodology, tools, resources, etc.); delivery schedule (working plan with milestones on deliverables); man-power requirements with complete curriculum vitae of the lead experts and members; and duly filled Appendix 1 and 2.

(2) Second Envelope

Financial Proposal shall consist of the following sets of documents:

- **FIRST SET** shall consist, among others, the bid amount and payments schedule; and duly filled Appendix 3;
- **SECOND SET** shall consist, among others, the company profile; business name registration issued by appropriate government agency; authority of signatory; valid business permit and other appropriate licenses; taxpayer identification number; latest audited financial statements, track record which includes testimonials from past and present clients on projects similar to the project at hand; capability to undertake the assignment (for consultancy firm); or which shall consist, among others, track record which includes testimonials from past and present clients on assignments projects similar to the project at hand; capability to undertake the assignment (for individual consultant).

All documents not submitted in English shall not be entertained and quoted price shall be in US Dollar (USD) only.

Appendix 1 – General Information

General Information

(To be submitted together in the First Envelope: Technical Proposal)

Name of Consultancy :
Firm/Individual Consultant

Name			
Division or Subsidiary (if applicable)			
Address			
City			
Province/State			
Country			
Postal Code			
Telephone			
Business Name Registration (if applicable)			
Tax Registration Number			
Valid Business Permit (if applicable)			
Contact		Telephone	
Title/Position		Fax	
E-Mail			
Indicate number of years involved in similar business			

Is there any recommendation from government or utility companies in ASEAN? [Y / N]

If Yes, please submit the recommendation letters.

Report Submitted by:

Name/Designation :

Signature :

Date

Appendix 2 – Project References

Project/Client References

(To be submitted together in the First Envelope: Technical Proposal)

Name _____ of _____ Consultancy :
Firm/Individual Consultant

Project Reference 1	
▪ Name of project	
▪ Name of client	
▪ Duration	
▪ Type of work (please describe)	
▪ Amount of the contract	
▪ Offered services	
▪ Number of involved person	
Project Reference 2	
▪ Name of project	
▪ Name of client	
▪ Duration	
▪ Type of work (please describe)	
▪ Amount of the contract	
▪ Offered services	
▪ Number of involved person	
Project Reference 3	
▪ Name of project	
▪ Name of client	
▪ Duration	
▪ Type of work (please describe)	
▪ Amount of the contract	
▪ Offered services	
▪ Number of involved person	
Project Reference 4	
▪ Name of project	
▪ Name of client	
▪ Duration	

▪ Type of work (please describe)	
▪ Amount of the contract	
▪ Offered services	
▪ Number of involved person	

Appendix 3 – Financial Proposal Requirements

Financial Proposal Requirements

(To be submitted together in the Second Envelop: Financial Proposal)

Name of Consultancy :
Firm/Individual Consultant

Financial proposal should contain the bid amount with detailed estimates i.e. description and allocation for each item. The total proposed budget should be inclusive of all supplies, services, taxes, and any other costs required to complete the project.

The financial submission should detail the estimates for each item as set out in the table below:

Description	Cost (USD)	Remarks
▪ Person-days Consultancy Fees		
▪ Reimbursable travel costs and Accommodation/Per Diem		
▪ Miscellaneous (please specify)		
▪ Tax		
▪ Total Proposed Amount		
▪ Payment Schedules	Payment of the service will be made in [?] stages: (1) First payment of [?] % (after inception meeting) (2) Second payment of [?] % (after submitting the interim report to ACE) (3) Third payment of [?] % (after submitting the final report and all related documents to ACE)	

Appendix 4 – Document Checklist

Checklist for the Completeness of Submitted Documents

To be used to ensure the completeness of the required information and documents for the tender. Must be signed and included in both envelopes of the proposal.

General Requirements

Description	Checklist
1. Proposal shall be prepared in English	
2. Proposal are submitted in two different envelopes	
3. The envelopes must be sealed and labelled accordingly: (i) Technical Proposal and (ii) Financial Proposal	
4. Title of the tender shall be put on each envelope	
5. Company profile (if applicable)	
6. Copy Company Legal Documents (if applicable), i.e. <ul style="list-style-type: none"> ▪ Business Name Registration ▪ Valid Business Permit ▪ Tax Identification Number ▪ List of client's references (Appendix) ▪ Customer testimonials on the similar project 	

Technical Requirements

Description	Checklist
1. Technical specifications of the service refer to the proposal	
2. All required information has been addressed accordingly	
3. Schedule of delivery	
4. Manpower/consultant requirement	
5. One original signed proposal	
6. One copy of technical proposal duplicate	

Financial Requirements

Description	Checklist
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Bid amount	
Payment schedule	
Latest audited financial statements (if applicable)	
One original copy of financial proposal	
One duplicated copy of financial proposal	

Appendix 5 – Envelope Templates

First and Second envelopes to be sealed inside the Main envelope.

Name & Address

Technical Proposal –
Provision of AIMS III

Figure 1. First Envelope (Technical Proposal)

Name & Address

Financial Proposal –
Provision of AIMS III

Figure 2. Second Envelope (Financial Proposal)

Name & Address

Bidding Proposal –
Provision of AIMS III

AIMS III Project Manager
ASEAN Centre for Energy
ACE Building, 6th Floor,
Jl. H.R. Rasuna Said
Block X-2, Kav.07-08
Jakarta 12950
Indonesia

Figure 3. Main Envelope (Bidding Proposal)