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Book Name:	Current Approaches in Engineering Research and Technology
Manuscript Number:	Ms_BPR_2884
Title of the Manuscript:	Capacitor Coupled Substation State Space Formulation for Power Tapping and Power Injection Application
Type of the Article	Book Chapter

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This manuscript holds significant importance for the scientific community, particularly in the fields of electrical engineering and power systems. By developing a state space model for capacitor coupled substations (CCS) used in power tapping and injection applications, it addresses critical challenges related to the efficient management of energy in high-voltage transmission networks. I appreciate the manuscript's focus on providing a systematic and mathematical approach to simplify complex electrical systems, which can benefit researchers and engineers working on microgrids and renewable energy integration. However, I believe the manuscript could improve by offering more practical examples or simulations to demonstrate the real-world applicability of the proposed models.	
Is the title of the article suitable? (If not please suggest an alternative title)	The current title, "Capacitor Coupled Substation State Space Formulation for Power Tapping and Power Injection Application," is generally clear and reflects the focus on capacitor coupled substations (CCS) and their application in power tapping and injection using state space modeling. However, it could be more concise and engaging. An alternative title could be: "State Space Modeling of Capacitor-Coupled Substations for Power Tapping and Injection Applications" This version emphasizes the modeling aspect and clarifies the dual application focus while maintaining brevity.	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract provides a good overview of the paper, explaining the purpose, methods, and significance of the state space model for capacitor coupled substations (CCS) in power tapping and injection. However, it could be more comprehensive by including specific details on the methods and results to give the reader a clearer understanding of the study's findings. Suggestions for improvement: Add key results or findings: The abstract should briefly mention the outcomes or conclusions derived from the state space formulation, such as improved system stability or efficiency in power management. Clarify practical implications: Including a sentence on how the model can be applied in real-world electrical systems, such as microgrids or renewable energy sources, would enhance the abstract's relevance. Simplify technical terms: While the abstract is written for a specialized audience, simplifying some technical terms or providing context could make it more accessible to a broader scientific community.	
Are subsections and structure of the manuscript appropriate?	The manuscript is well-structured overall, with clearly defined subsections that follow a logical progression from the introduction to the methodology, results, and discussion. The sections are appropriately organized to guide the reader through the theoretical background and practical applications of the state space formulation for capacitor coupled substations (CCS). However, there are a few suggestions for improvement:	

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	<ul style="list-style-type: none"> • Combining or Reorganizing Subsections: Some subsections, such as the background theory and CCS power tapping/injection, could be integrated more cohesively. For instance, combining the theoretical aspects of power tapping and injection with their corresponding state space formulations could reduce redundancy. • Expand the Results Section: While the methodology is well-detailed, the results section could benefit from more elaboration or even a separate "Results" subsection that focuses on the outcomes of the state space modeling and how it contributes to the research objectives. • Conclusion and Future Work: Consider adding a clear conclusion section that not only summarizes the findings but also suggests future work or potential advancements in the application of CCS in electrical networks. 	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>The manuscript appears to be scientifically correct and technically sound, as it is based on well-established principles of electrical engineering, particularly state space modeling and the use of capacitor coupled substations (CCS) in power systems. The use of Kirchhoff's laws and state space equations for developing the CCS models aligns with conventional methods in circuit analysis and control systems, which adds credibility to the approach. Furthermore, the manuscript provides clear mathematical formulations and derivations, demonstrating a rigorous analytical framework. The thoroughness in detailing both power tapping and power injection scenarios indicates that the research is comprehensive and systematically conducted.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p> <p>:</p>	<p>The references in the manuscript are mostly sufficient and cover a range of relevant topics, including capacitor coupled substations, state space modeling, and power systems analysis. However, many of the sources are somewhat dated, with several references from the 1990s and early 2000s. While foundational works are important, including more recent references—especially in the context of renewable energy integration and modern power grid technologies—would strengthen the manuscript.</p> <p>Suggestions for additional references:</p> <ul style="list-style-type: none"> • Recent studies on the application of state space modeling in renewable energy systems or smart grids. • Updated research on capacitor coupled substations, particularly in relation to microgrids and modern control systems. • Papers discussing advancements in the control and stability of high-voltage transmission networks with increasing penetration of renewable energy. <p>Incorporating these would ensure the research reflects the latest developments in the field.</p>	

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<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>While the language quality of the manuscript is generally suitable for scholarly communication, there are instances of awkward phrasing, grammatical issues, and areas where clarity could be improved. Here are some examples of incorrect or unclear sentences from the manuscript:</p> <ul style="list-style-type: none"> Awkward Phrasing: Original: "Capacitor Coupled Substations can also be utilized for power injection from alternative electrical power sources, such as microgrids, with appropriate power flow control systems." Suggestion: "Capacitor Coupled Substations can also be used to inject power from alternative electrical sources, such as microgrids, when equipped with appropriate power flow control systems." Complex Sentence Structure: Original: "Typically employed for extracting power from high voltage transmission lines and converting it to medium voltage at the distribution level through coupling capacitors, Capacitor Coupled Substations can also be utilized for power injection from alternative electrical power sources, such as microgrids, with appropriate power flow control systems." Suggestion: "Capacitor Coupled Substations are typically used to extract power from high-voltage transmission lines and convert it to medium voltage for distribution. They can also inject power from alternative sources, like microgrids, if equipped with suitable power flow control systems." Grammatical Issues: Original: "The requirements for supplying power to sparsely populated areas has necessitated numerous studies focusing on different aspects of the CCS, such as its impact on the transmission network and the impact of multiple CCS on the transmission network." Suggestion: "The requirements for supplying power to sparsely populated areas have necessitated numerous studies focusing on different aspects of CCS, including its impact on the transmission network and the effects of multiple CCS installations." Redundancy: Original: "This requires system modeling for effective studies. When a studied system has a number of variables, modeling becomes complex." Suggestion: "This necessitates system modeling for effective analysis, as the presence of multiple variables complicates the modeling process." <p>These examples illustrate areas where the manuscript could benefit from clearer language, improved sentence structure, and grammatical corrections to enhance overall readability and professionalism.</p>	
<p><u>Optional/General</u>comments</p>	<ul style="list-style-type: none"> Significance of Research: The manuscript addresses a pertinent topic in electrical engineering, particularly the modeling of capacitor coupled substations for power tapping and injection. This research is timely and relevant given the increasing emphasis on renewable energy sources and microgrid integration. Clarity and Accessibility: While the technical content is strong, striving for clearer explanations and definitions of key terms would make the manuscript more accessible to readers from diverse backgrounds. This is especially important for interdisciplinary work, where readers may not have specialized knowledge in electrical engineering. Visual Aids: The inclusion of diagrams or flowcharts to illustrate complex concepts and the state space modeling process would enhance the reader's understanding. Visual aids can be particularly effective in conveying intricate relationships in electrical systems. Future Work: It may be beneficial to include a section discussing potential future research directions or practical applications of the findings. This could provide readers with insights into how the work can be expanded or applied in real-world scenarios. 	

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	Based on the content of the manuscript as described, there do not appear to be any overt ethical issues present.	
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PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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