**A Project Report on**

**ISLANDING OPERATION AND AUTONOMOUS POWER MANAGEMENT FOR INTERLINKED AC/DC MICROGRIDS**

**Submitted in partial fulfilment of the requirement for the award of degree of**

**BACHELOR OF TECHNOLOGY**

**IN**

**ELECTRICAL AND ELECTRONICS ENGINEERING**

**By**

**K. Divakar (19985A0231) M. Anjali (19985A0242)**

**T. Sai Ganesh(19985A0290) Y. DileepPrudhvi(19985A0298)**

**Under the esteemed guidance**

**of**

**Mr. P. Srinivas**

**Assistant Professor**



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**rAGHU ENGINEERING COLLEGE**

Accredited by NBA, NAAC ‘A’ Grade, Permanently Affiliated to JNTUK

Dakamarri (V), Bheemunipatnam (M), Visakhapatnam Dist, Andhra Pradesh-531162

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**CERTIFICATE**

This is to certify that the project work entitled as “**islanding operation and autonomous power management for interlinked ac/dc microgrids”** submitted by **K. Divakar(19985A0231), M. Anjali(19985A0242), T. Sai Ganesh(19985A0290), Y. Dileep Prudhvi(19985A0298)** in partial fulfilment of the requirements for the award of degree of **Bachelor of Tecnology in Electrical and Electronics Engineering** of **Raghu Engineering College** is a bonafiderecord work done by them under my guidance and supervision.

**PROJECT GUIDE HEAD OF THE DEPARTMENT**

**Mr. P. Srinivas Mr. P. Sasi Kiran**

**Assistant Professor Professor**

**Department of EEE Department of EEE**

**Raghu Engineering College Raghu Engineering College**

**Visakhapatnam Visakhapatnam**

**Signature of the external Examiner**

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**ABSTRACT**

The existing power management schemes for interlinked AC-DC micro grids have several operational drawbacks. Some of the existing control schemes are designed with the main objective of sharing power among the interlinked micro grid on their loading conditions, while other schemes regulate the voltage of the interlinked micro grids without considering the specific loading conditions. However, the existing schemes cannot achieve both objectives efficiently. To address these issues, an autonomous power management scheme is proposed, which explicitly considers the specific loading condition of the DC micro grid before importing power from the interlinked AC micro grid. This strategy enables voltage regulation in the DC micro grid, and also reduces the number of converters in operation. The proposed scheme is fully autonomous while it retains the plug-n play features for generators and tie-converters. The performance of the proposed control scheme has been validated under different operating scenarios. The results demonstrate the effectiveness of the proposed scheme in managing the power deficit in the DC micro grid efficiently and autonomously while maintaining the  
better voltage regulation in the DC micro grid. The results are verified through MATLAB/SIMULINK environment.

**(i)**