Thesis Progress Form
CHARLES DARWIN UNIVERSITY
College of Engineering, IT, and Environment

Name: Shane Reynolds

Unit: ENG720

Title: Automatic generation control of a two area power system using deep reinforcement learning

Supervisors: Charles Yeo & Stefanija Klaric

Time & Date: April 28, 2020 @ 2.30pm

1   Progress since last meeting

- Continuing to revise and work on literature review. Have included additional sections on Reinforcement Learning, Neural Networks, and Deep Reinforcement Learning to provide adequate background to present approach and experiments.

- Implementing test versions of DRL learning algorithms on classical control problems — emphasis on DDPG for continuous action spaces

2   Discussion Points

- Nothing to discuss at this point in time — need continue writing (discussion of draft thesis would be more beneficial the following Wednesday)

3   Plan until the next meeting

- Complete thesis chapter Introduction

- Complete thesis chapter Literature Review

- Write thesis chapter on Approach

- Encapsulate power system model in OpenAI gym class environment and test to ensure that this works appropriately

- Implement classical controller for OpenAI gym class power system environment

- Implement DDPG controller for power system and train agent

- Test agent on unseen scenarios

- Commence thesis chapter on experiments

Supervisor

April 28, 2020