

An Hourly Multistage Stochastic Optimization Approach For Day-Ahead Energy Market

Alessandro Soares, Alexandre Street, and Davi Valladao, *Member, IEEE*

Abstract—The high penetration of alternative renewable source in electrical syst

Index Terms—Stochastic Unit Commitment, Hydrothermal optimization, Stochastic Dual Dynamic Programming, Benders decomposition,

I. INTRODUCTION

SYSTEMS with a high penetration of intermittent r

II. PROBLEM FORMULATION

A. Full Day-Ahead formulation

The following Day-Ahead formulation includes the SDDP framework along with the commitment variable decision.

Davi Valladao and Alexandre Street are with the Electrical Engineering Department, Pontifical Catholic University of Rio de Janeiro (PUC-Rio), Rio de Janeiro, RJ, Brazil (e-mail: street@ele.puc-rio.br).