الأية

بسم الله الرحمن الرحيم

قال تعالى

{ قَالُوا سُبْحَانَكَ لا عِلْمَ لَنَا إِلاَّ مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ }

سورة البقرة (32)

صدق الله العظيم

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Dedication

This Thesis is dedicated to the spirit of my father and his mercy and forgiveness. This work is also dedicated to my dear mother I hope to enjoy the health and wellness.

Abstract

Remote Terminal Unit (RTU) will be used to monitor the field through indicating status of wells and send start/stop command to it and speed control through Variable Speed Derive (VSD).

Moreover the system will be capable of transmitting the situation through radio channel to the control station an early alarm, for fast response before wells starts to shutdown, which illuminates the stopping of production and problem handling before stopping the wells.

The control room will be updated by communication tool that used to control the wells, by sending shutdown, starting, increasing or decreasing revulsion per minute (RPM). An RTU was selected as a programmable logic controller, from Emerson RTU, Control Wave Micro Hybrid RTU PLC which has the ability to communicate with Radio technology and to control the RPM of induction motors based on VSD.

مستخلص

تم استخدام نظام وحدة التحكم عن بعد فى مراقبة آبار البترول والتحكم فى سرعتها من خلال متغير السرعة.

وعلاوة على ذلك فان النظام سوف يكون قادر على نقل حالة الآبار من خلال قناة راديو الى غرفة التحكم الرئيسية واعطاء انزار مبكر من أجل استجابة سريعة قبل توقف الإنتاج وأيضا سيتم تحديث غرفة التحكم بمعلومات الآبار من سرعة وشدةتيار وغير ه وارسال اشارات التحكم مثل تشغيل وايقاف البئر وتغير السرعة.

وقد تم اختيار وحدة التحكم عن بعد من شركة ايمرسون الذى لدية القدرة على التو اصل مع تكنولوجيا الراديو والربط مع وحدة التحكم فى المحركات الحثية

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Abbreviation

VSD	Variable Speed Drive
RTU	Remote Terminal Unit
RPM	Revelation per mints
SCADA	Supervisory Control and Data Acquisition
HMI	Human Machine interface
OPC	Open Platform Communications
GSM	Global System for Mobile
MTU	Master Terminal Unit
DCS	Distributed Control System
DI	Digital Input
PLC	Programmable logic Controller
ASCII	American Standard Code for Information Interchange
LD	Ladder Diagram
SFC	Sequential Flow Chart
FBD	Function Block Diagram
DC	Direct Current
AC	Altercative current