

BOILER B-2

GAS FLOW

DO FROM BMS

REMAINDER OF POINTS FROM BOILER CONTROL PANEL TO BE COMMUNICATED VIA

MODBUS RS485 RTU CONVERT

TO BACNET TO BMS

DI TO BMS

METER WITH

PULSE OUTPUT

BMS CONTRACTOR

**BOILER B-1 CONTROL** 

PANEL TO INCLUDE

START BOILER FEED-

PANEL TO INCLUDE HMI. -

DRY CONTACT TO

WATER PUMPS.

PROVIDED BY

**BOILER B-1** 

GAS FLOW

METER WITH

PULSE OUTPUT

PROVIDED BY

DO FROM BMS

REMAINDER OF POINTS FROM

MODBUS RS485 RTU CONVERT

BOILER CONTROL PANEL TO

BE COMMUNICATED VIA

TO BACNET TO BMS

DI TO BMS

**BMS CONTRACTOR** 

PULSE OUTPUT

BOILER B-3

AI TO BMS

METER WITH

PROVIDED BY

PULSE OUTPUT

**BMS CONTRACTOR** 

**BOILER B-2 CONTROL** 

PANEL TO INCLUDE

START BOILER FEED

PANEL TO INCLUDE HMI. -

DRY CONTACT TO

WATER PUMPS.

DO FROM BMS

REMAINDER OF POINTS FROM

MODBUS RS485 RTU CONVERT

BOILER CONTROL PANEL TO

BE COMMUNICATED VIA

TO BACNET TO BMS

DI TO BMS

AI TO BMS

—FOR——

**PUMPSET** 

**BOILER B-3 CONTROL** 

PANEL TO INCLUDE

START BOILER FEED-

PANEL TO INCLUDE HMI. ——

DRY CONTACT TO

WATER PUMPS.

FOP-1

PANEL

CONTROL

X

X

CONTROL PANEL SHALL

TO ALLOW FOR MANUAL

INTERFACE RS485 RTU. ——

INCLUDE HOA SWITCH

OPERATION. CONTROL

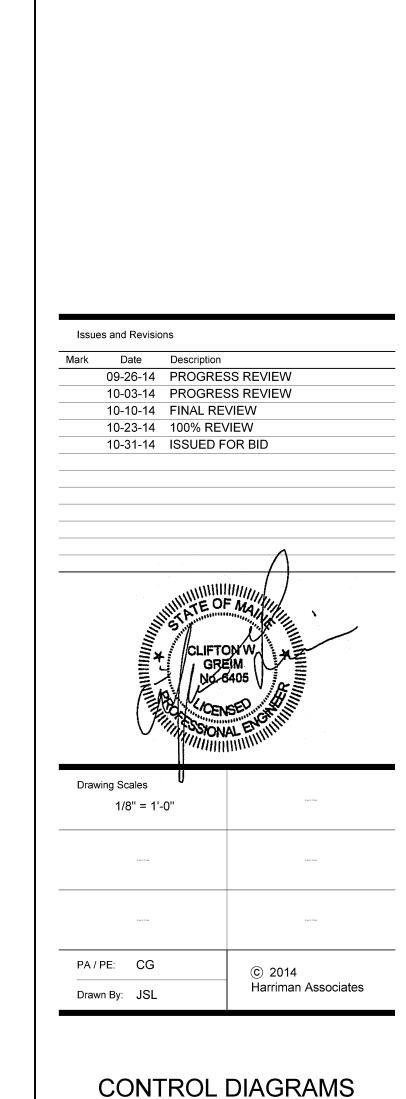
PANEL SHALL INCLUDE

OPTIONAL MODBUS

COMMUNICATION

Χ

TO SHARK METER



CONDENSATE -

EXISTING BMS PANELS

SALVAGÉ CONTROLS

AND TURN OVER TO

DI TO BMS

(2 TOTAL)

OWNER

PULSE OUTPUT

PULSE OUTPUT

TO SHARK METER

AI TO BMS

AI TO BMS

AI TO BMS

AI TO BMS

AO FROM BMS DO FROM BMS DO FROM BMS

DI TO BMS

VFD

CONDENSATE RECEIVER

TO SHARK METER

**EXISTING** 

BMS

PANEL

AO FROM BMS

DO FROM BMS

ANALOG LEVEL SENSOR (2 TOTAL) TO BE PROGRAMMED AS REDUNDANT

> GRUNDFOS CONDENSATE PUMP WITH INTEGRAL VFD

MODBUS COMMUNICATION INTERFACE RS485 RTU

INCLUDE OPTIONAL

FOR PUMP ENABLE SETPOINTS AND

HIGH LEVEL ALARM —

DI TO BMS

DEAERATOR TANK

CONTROL

PANEL

DI TO BMS

INCLUDE OPTIONAL

MODBUS COMMUNICATION

**GRUNDFOS BOILER** 

FEED-WATER PUMPS

WITH INTEGRAL VFD —————

INTERFACE RS485 RTU

NOTE: STRAP-ON TEMPERATURE

CONTRACTOR SHALL PROVIDE

WELL MOUNTED TEMPERATURE

SENSORS THROUGHOUT.

SENSORS WILL NOT BE ACCEPTABLE

AO FROM BMS

DO FROM BMS

DI TO BMS

HARRIMAN

AUBURN PORTLAND MANCHESTER

**UNIVERSITY OF** 

SOUTHERN MAINE

CENTRAL HEAT PLANT

**UPGRADES** 

PORTLAND, ME

14411

Harriman Project No.

Key Plan

CONTROL DIAGRAMS

M30.2

BOILER FEED-WATER PUMP VFD FAULT (TYP. OF 2)

BOILER FEED-WATER PUMP VFD ENABLE (TYP. OF 2)

BOILER FEED-WATER PUMP VFD SETPOINT (TYP. OF 2)

CONDENSATE PUMP VFD FAULT (TYP. OF 2)

CONDENSATE PUMP VFD ENABLE (TYP. OF 2)

DA-1 TANK TEMPERATURE SENSOR

CONDENSATE PUMP VFD SETPOINT (TYP. OF 2)

CONDENSATE RECEIVER LEVEL SENSOR (TYP. OF 2)

CONDENSATE TEMPERATURE SENSOR (TYP. OF 3)

PUMPED CONDENSATE WATER FLOW METER