

ASME POM 102-2014

# Operating Walkdowns of Power Plants

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AN AMERICAN NATIONAL STANDARD



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Mechanical Engineers

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# CONTENTS

Notice .....	iv
Foreword .....	v
Committee Roster .....	vi
Correspondence With the PAP Committee .....	vii
Introduction .....	viii
<b>1 Object and Scope .....</b>	<b>1</b>
<b>2 Acronyms .....</b>	<b>1</b>
<b>3 Guiding Principles .....</b>	<b>1</b>
<b>4 Specific Equipment Considerations .....</b>	<b>2</b>
<b>5 Instruments and Methods of Measurement .....</b>	<b>2</b>
<b>6 Report of Results .....</b>	<b>2</b>
<b>Nonmandatory Appendices</b>	
A Gas Turbine Inlet Air Conditioning Systems .....	3
B Gas Turbines .....	4
C Heat Recovery Steam Generators .....	5
D Water Chemistry — Sample Panel .....	7
E Steam Generators .....	8
F Steam Turbine and Generator .....	11
G Steam Surface Condensers .....	12
H Air-Cooled Steam Condenser .....	13
I Cooling Towers .....	14
J Emissions Control Systems .....	15
K Piping Systems .....	16
L Fuel Delivery Systems — Solid Fuels .....	17
M Plant Auxiliary Systems — Pumps .....	22
N Safety Considerations .....	25

# OPERATING WALKDOWNS OF POWER PLANTS

## 1 OBJECT AND SCOPE

### 1.1 Object

This Standard provides guidelines for operating equipment walkdowns that are designed to ultimately improve the thermal performance and efficiency of the power plant. Following these guidelines may also lead to more proactive maintenance practices, which can also be expected to improve the reliability of the plant.

### 1.2 Scope

This Standard provides guidelines for walkdowns of power plants using fossil fuels during operating periods. Some portions may be applicable to other types of power plants.

## 2 ACRONYMS

The following acronyms are used in this Standard:

*ACC*: air-cooled condenser

*ACET*: average cold end temperature

*AH*: air heater

*CT*: combustion turbine (see also gas turbine)

*CW*: circulating water

*DP*: differential pressure

*ESP*: electrostatic precipitator

*FD*: forced draft fan

*GR*: gas recirculation

*GT*: gas turbine (see also combustion turbine)

*HHV*: higher heating value

*HP*: high pressure

*HRSG*: heat recovery steam generator

*HVT*: high-velocity thermocouple

*ID*: induced draft fan

*IGV*: inlet guide vane

*IP*: intermediate pressure

*LOTO*: lockout/tagout

*LP*: low pressure

*NPSH*: net positive suction head

*OEM*: original equipment manufacturer

*OFA*: over-fire air

*P&ID*: process and instrumentation diagram

*PPE*: personal protective equipment

*SCR*: selective catalytic reduction system

*SNCR*: selective noncatalytic reduction system

*ST*: steam turbine

## 3 GUIDING PRINCIPLES

Equipment reliability and performance have parallels. Indications of poor performance are closely tied to those of reduced reliability. Abnormal wear patterns, poor cleanliness, increased corrosion, and mechanical failures, no matter how small, have effects on both unit reliability and unit performance. Identifying the root cause is the first step in improving the overall performance of a piece of equipment and the power-generating unit of which it is a part. While these inspection guidelines are written to ultimately enhance the plant's performance, all observations should be noted and acted upon.

Nonmandatory Appendices A through M provide details on activities to be completed prior to starting an operating inspection-walkdown.

### 3.1 Safety Considerations

All plant safety procedures should be reviewed prior to inspecting equipment and shall be followed.

Prior to walking down the operating equipment, it is important to identify all potential hazards that may be encountered. High-temperature and/or high-pressure piping should be located and identified, along with the locations of safety valves and steam traps that may release energy unexpectedly. Maintain a safe distance from rotating equipment and moving parts that are in the inspection-walkdown area.

Refer to Nonmandatory Appendix N for some specific safety considerations.

### 3.2 Pre-Walkdown Activities

Prior to any inspection, the following documents and information should be gathered and reviewed:

- (a) the last inspection-walkdown report
- (b) recent operating data from control system historian and other available archives
- (c) recent operating history as recalled by current plant operations staff
- (d) actual versus expected performance for the component(s) of interest