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Cold commissioning test protocol for cold runs

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ENERGY WASTE

Data Project

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Summary: Cold commission is a basic procedure that will be followed in order to check the functionality of the installed machinery (i.e. motors, pumps, rotating devices), the response of the automation and control system and all the measuring instrumentation and the operation of the unit under ambient pressure conditions. Feeding system control, cold flow fluidisation monitoring (checking pressure drop profile) and air tightness are critical parameters that should be determined and secured under ambient conditions. The cold commissioning timetable is presented.		
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1 Introduction

Cold commission is a basic procedure that will be followed in order to check the functionality of the installed machinery (i.e. motors, pumps, rotating devices), the response of the automation and control system and all the measuring instrumentation and the operation of the unit under ambient pressure conditions. Feeding system control, cold flow fluidisation monitoring (checking pressure drop profile) and air tightness are critical parameters that should be determined and secure under ambient conditions. Once the successful cold commissioning is completed, the unit will be ready for hot testing operation.

2 Cold commissioning protocol

The following procedure will be followed as cold commissioning protocol.

2.1 Machinery and equipment inspection

Visual inspection at all parts and components of equipment and machinery will be done as an essential first step. All equipment will be tested without load to check their functionality.

2.2 Automation and control system and measuring instrumentation inspection

The electrical switchboard, the PLC card, all signals and commands will be checked one by one to secure the required operation profile. The visualisation of the process and the data recording system will be also tested. All measuring equipment will be tested.

2.3 Cold flow testing

As last step in the cold commissioning is the cold flow testing. The successive steps that will be followed are presented in Table 2.1.

Cold commissioning is estimated to last 33 working days while troubleshooting might also be required if malfunctions will be detected. Troubleshooting duration is not reported because it depends on the nature of the emerging problem.

Table 2.1: Cold commissioning protocol

	Cold commissioning procedure							Duration
Equipment	Functionality							3 days
A&C	Response							
Instrumentation		Functionality						3 days
Process			Tightness					1 day
				Fluidisation				12 days
				Recirculation				
				Pressure drop profile				
					Feeding			4 days
					Discharging			
						System pressure drop profile		2 days
							System Calibration	8 days
						Overall testing		
Troubleshooting								

It is noted that the above-mentioned duration might change in case of unforeseen technical difficulties.