
















## Session: Meter Testing in Laboratory and at Site













Learning Objective	Evaluation Criteria
Explain how to test energy meter at meter testing laboratories and consumer's premises	Interactive Questioning

	<b>Duration</b>	15 Minutes
	<b>Resources</b>	PowerPoint Presentation, Whiteboard, Markers, Screen and Projector
	<b>Facilitator's Notes</b>	In this session, take the participants through an interactive presentation with video snippets on how to test the energy meter at meter testing laboratories and consumer's premises.








**End of Notes**

		<b>1.</b>	<p><b>Tell:</b></p> <p>Welcome to the video presentation on 'Meter Testing in Laboratory and at Site.'</p> <p>Let us start with energy meter testing at one of the meter testing laboratories.</p> <p><b>Facilitator's Note:</b></p> <p>Welcome the participants and give an overview on the session.</p>
			<p><b>Facilitator's Notes:</b></p> <ul style="list-style-type: none"> <li>• Display the slide</li> <li>• Read out the objectives and ask the learners to note them</li> <li>• Inform them that they will be asked questions during the session</li> </ul> <p><b>End of Notes</b></p>
		<b>2.</b>	<p><b>Tell:</b></p> <p>By the end of this session, you will be able to explain how to test energy meter at meter testing laboratories and consumer's premises.</p>
		<b>3.</b>	<p><b>Tell:</b></p> <p>Let us first see how to check a meter at the laboratory.</p> <p><b>Facilitator's Note:</b></p> <p>Click to play the video.</p> <p><b>Tell:</b></p> <p>TPDDL is accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL). Here is a standard energy meter of accuracy class 0.05.</p>
		<b>4.</b>	<p><b>Tell:</b></p> <p>The sticker seal on the standard energy meter is the test certificate issued by the government laboratory.</p> <p><b>Facilitator's Note:</b></p> <p>Continue to play the video.</p>
		<b>5.</b>	<p><b>Tell:</b></p> <p>The test certificate shown in the video is issued by the government laboratory. It confirms that this instrument is calibrated and its results are valid for a period of two years.</p>

## Meter Testing in Laboratory and at Site

			<p>At the upper end, leads are coming out. These are connected to the meter under test (MUT). The standard meter must be of superior class than that of the MUT.</p> <p><b>Facilitator's Note:</b> Continue to play the video.</p>
		6.	<p><b>Tell:</b> In this case, MUT is of class 0.5. Energy meter testing is carried out as per IS 13779, CBIP Technical Report 88 and IEC 62052 &amp; 53.</p> <p><b>Facilitator's Note:</b> Continue to play the video.</p>
		7.	<p><b>Tell:</b> The next one is Phantom load machine GP 3050/3 from where current, voltage and power factor are controlled according to test requirements as per standard.</p> <p><b>Facilitator's Note:</b> Click to play the video.</p>
		8.	<p><b>Tell:</b> Here, you can notice the MUT of rating 3X230 V, 100/5 A is connected on the test bench.</p> <p><b>Facilitator's Note:</b> Continue to play the video.</p>
		9.	<p><b>Tell:</b> Optical scanner senses the pulse of the meter under test and standard meter configures all the basic data and test results.</p> <p>As seen here, energy meters are tested in the laboratory to eliminate human error.</p> <p><b>Facilitator's Note:</b> Continue to play the video.</p> <p><b>Tell:</b> Let us now see how the energy meter is tested at the consumer's premises.</p>
		10.	<p><b>Tell:</b> Now, we will learn how an energy meter is tested at the consumer's premises. Here, we will test the energy meter functions and its accuracy on the request of consumer. Consumers can lodge a complaint regarding malfunctioning of the meter. It may be recording fast reading and the consumer may have received an escalated electricity bill. The meter testing team headed by Additional Manager reaches the doorstep of the consumer.</p> <p><b>Facilitator's Note:</b> Click to play the video.</p>
		11.	<p><b>Tell:</b> Here, you can see the location of meter. They first check which meter has to be tested. The meter with which the meter number matches is the one they have to work on.</p> <p><b>Facilitator's Note:</b> Click to play the video.</p>

## Meter Testing in Laboratory and at Site

		<b>12.</b>	<p><b>Tell:</b></p> <p>The optical scanner is fixed and consumer's details are recorded. The meter is put on 'test mode' and then he will press Start.</p> <p><b>Facilitator's Note:</b></p> <p>Continue to play the video.</p>
		<b>13.</b>	<p><b>Tell:</b></p> <p>Here, you can see 0.98% accuracy on the standard meter. As per DERC guidelines, for an energy meter installed to record energy consumption, 2.5% plus or minus accuracy is permissible.</p> <p><b>Facilitator's Note:</b></p> <p>Continue to play the video.</p>
			<p><b>Tell:</b></p> <p>In this video presentation, you have seen "Meter Testing in Laboratory and at Site."</p>
<b>Key Learning Outcomes</b>			
		<b>14.</b>	<p><b>Tell:</b></p> <p>Let us quickly recap what we learnt so far.</p> <p>In this session, you have learnt that:</p> <ul style="list-style-type: none"> <li>• The sticker seal on the standard energy meter is the test certificate issued by the government laboratory</li> <li>• The standard meter must be of a superior class than the MUT</li> <li>• Energy meter testing is carried out as per IS 13779</li> <li>• Optical scanner senses the pulse of meter under test</li> <li>• Energy meter can be tested in the laboratory and at the consumer's premises</li> </ul>

