

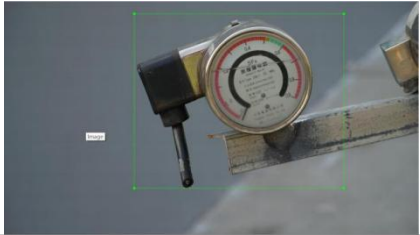








Substation Multi-phase Defect Sample Labeling Operation Manual




June 10, 2024

The substation defect types currently include abnormal box door closure, foreign object intrusion, insulator breakage, meter damaged, silica gel cartridge broken, switch status change, and device position change. Each image to be judged can output at most one label box. Table 1 shows the annotation examples in some scenarios.

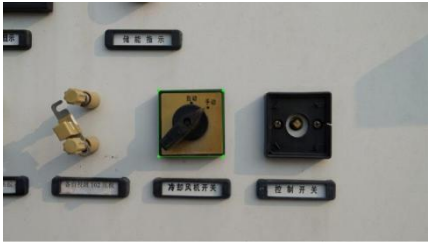



Table 1. Annotation illustration




Type	Annotation notes	Normal example image	Defect example image (with the same example image above and below each category)
Device position change	Include changes in the presence or absence of equipment or devices, as well as changes in their position (including rotation) when annotating. Focus on equipment or devices, mark the union of the areas of change before and after (mark the starting and ending areas of the change)		
			
			


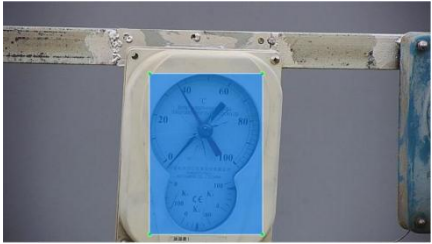

			
Fire-fighting facility position change	Include changes in the presence or absence of facilities, as well as changes in their location (including rotation). Focus on fire protection facilities, mark the union of the areas of change before and after (mark the starting and ending areas of the change)		<div><p>marked area</p><p>Annotation box (yellow green rectangular box in the figure)</p></div>

<p>Foreign object intrusion</p>	<p>Annotate the presence and location of foreign objects. Use foreign objects as the focus, mark the union of the areas of change before and after (mark the starting point to the endpoint area of the change)</p>		<div><p>marked area</p></div> <div><p>Annotation box (yellow green rectangular box in the figure)</p></div>
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<p>Indicator light change</p>	<p>Mark the indicator light area that has changed before and after</p>		 <p>marked area</p>  <p>Annotation box (yellow green rectangular box in the figure)</p>
<p>Switch/ pressure plate position change</p>	<p>Mark the switch/pressure plate area that has changed before and after</p>		 <p>marked area</p>

			 <p>Annotation box (yellow green rectangular box in the figure)</p>
Abnormal box door closure	Use the box door as the focus point, mark the union of the areas of change before and after, i.e., mark the starting and ending areas of the change		 <p>marked area</p>  <p>Annotation box (yellow green rectangular box in the figure)</p>

<p>Isolation switch opening and closing changes</p>	<p>Focus only on the knife switch arm and mark the changes before and after</p>		<div>  </div> <p>marked area</p> <div>  </div> <p>Annotation box (yellow green rectangular box in the figure)</p>
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Equipment damage	<p>Pay attention to the equipment as the main focus and mark the damaged area. If there is a change in the meter dial, mark the dial area. (If the insulator is damaged, mark the entire insulator piece or umbrella skirt that has been damaged)</p>		 <p>marked area</p>  <p>Annotation box (yellow green rectangular box in the figure)</p>
<p>Note: Refer to the labeling methods for equipment and facilities, foreign objects, fire-fighting facilities, etc. for the presence or location changes of person, and mark the areas that have changed before and after.</p>			