



Inverter-Based Resources Risks

Jeff Hargis
Senior Risk Engineer

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Inverter Based Resource (IBR) Risk Background

**Retirement
of Large
Baseload
Generation**

**IBR
Penetration**

**Load
Growth**



IBR Reliability Risks

Non-Dispatchable

Inertia

Ride-Through



What is Texas RE Risk Considering?



IBR facilities owned/operated

IBR facilities connected to the system

Previous engagement scopes

Events related to IBRs

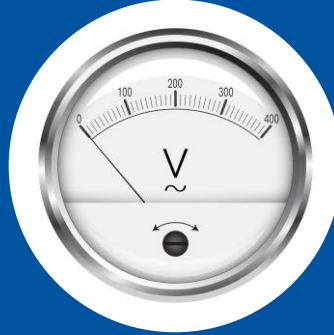
Compliance history



Standards for IBR Strategy



**FAC and MOD
Standards**



**Existing PRC
Standards**



**New PRC
Standards**



IBR Strategy: FAC and MOD Standards

Basics: Facility Ratings, Modeling

Facility Interconnection Requirements

Purpose: Ensure Accuracy of System Models

Verify New Interconnections, Models, Performance

Revisions to MOD-026 and MOD-027

Continuing Oversight of Facility (FAC) Standards



IBR Strategy: Existing PRC Standards



Protection System definition does not change for IBR

Protection of assets and keeping units online are the priorities

Purpose: Ensure correct operation and coordination



IBR Strategy: Existing PRC Standards

PRC-004: ID, Correct Protection System Misoperations

PRC-005: Protection System Maintenance and Testing

PRC-027: Coordination of Protection Systems



IBR Strategy: New PRC Standards

PRC-028-1: Install Disturbance Monitoring Equipment

PRC-029-1: Ride Through Disturbances

PRC-030-1: Analyze and Mitigate Performance Issues



PRC-028-1: Install Disturbance Monitoring Equipment

**Install disturbance
recording
capability**

**Record data with
specified
characteristics**

**Submit data to
requesting entities
in specified
formats**

**Restore recording
capability when a
failure occurs**



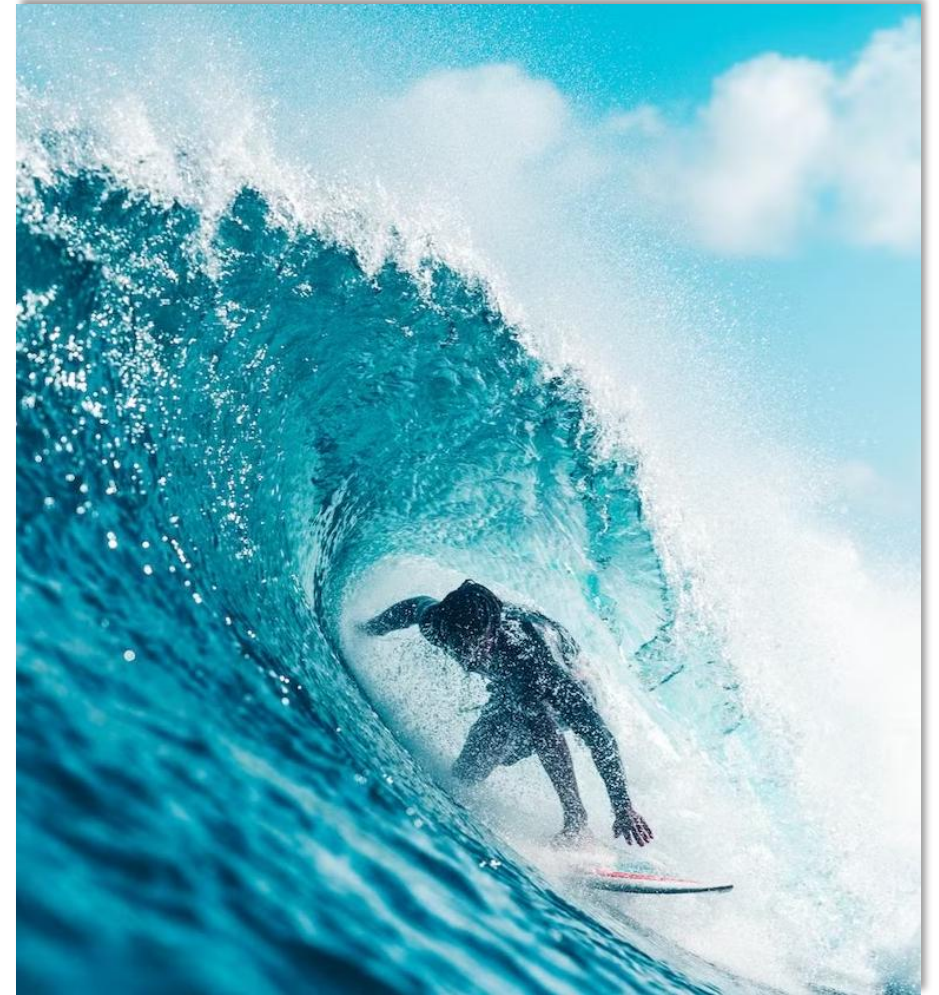
PRC-029-1: Ride Through Disturbances

Design IBR such that it meets ride-through requirements

Ensure IBR operates to meet ride-through requirements

Document limitations and provide to specified entities

Communicate hardware changes and lift exemptions



PRC-030-1: Analyze and Mitigate Performance Issues



Identify specified changes in IBR output

Analyze IBR performance, causes, and any corrections

Develop Corrective Action Plan (CAP) if needed and provide to specified entities

Implement the CAP



Contact

Risk@TexasRE.org



The background of the slide features a blurred image of the Texas state flag on the left and a close-up of a wind turbine's hub and blades on the right. The blades are white with red tips. A dark blue rounded rectangle with a thin light blue border is centered over the image.

Questions?



TEXAS RE

Ensuring electric reliability for Texans