



Performance Monitoring from a WFPS Perspective

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Presentation Overview

Introduction

Performance Monitoring Process in SSE

Priority of Issues

Areas for Process Improvement

Introduction

SSE Operate ~ 500MW of onshore Wind Farms in Ireland and Northern Ireland

TSO connections

7 in ROI

1 in NI

DSO connections

11 in ROI

4 in NI

SSE Operate 23 Wind farms in Ireland

Grid Code Compliance

&

**On-going
Performance Monitoring**



Key Components to

The successful delivery of DS3

Performance Monitoring Process in SSE

- Email notification from TSO of an event
- Assigned to C&I Resources
- Communication with OEM and/or Site Operator
- Each event is given a Priority 1,2,3
- Some issues can be trouble-shooted remotely
- Site visits are most often required for priority 1 issues
- Weekly internal meeting on Performance issues
- Tracker updated weekly

Prioritisation of Issues

Classification based on SSE view on importance of issues to TSO

Priority 1 issues will maintain as these are linked to categorisation – key incentive

SSE Open to re-classification for other issues

Performance Monitoring Process in SSE

Priority 1 Issue:

- Failure to follow MW dispatch instruction
- AAP complete failure/flatline
- Essentially an event which puts the site on 10 day notification



9/10 require a site visit and 'specialised' OEM support (typically remote)

Item closed off only when dispatch test report issued and passed and confirmation of Cat (ii)

Performance Monitoring Process in SSE

Priority 2 Issue

- AAP accuracy is out by more than 10%
 - Typically its evident what the issue is and can be trouble shooted remotely
- Failure to follow kV dispatch instruction
 - Would require 'specialised' OEM support
- FRT issue
 - Sooner the event is identified to us the better chance we have of downloading the data from site

Performance Monitoring Process in SSE

Priority 3 Issue

- AAP accuracy is out by more than 6% but less than 10%
 - Older technologies are struggling with this new ROI standard
- WF didn't meet the required tolerance on the set-point, it was out by more than 1 MW
 - For most of these issues the WF is just outside this standard which can be due to gusting, difficult to determine
 - Should this tolerance be extended ?
 - Maybe a review required here

Areas for Improvement

1. Missed MW DI

1 missed DI from a well performing site, where it has been responding pre and post the event – maybe this should be increased to 2?

Significant resources from IPP and TSO to close out these issues which often turn out to be spurious and/or have already been fixed (e.g temp loss of comms) ?

Areas for Improvement

2. More detailed info for some of the events

More information with timestamps the better, info from RTU?

Suspect some events get lost in the RTU – additional relay ?

21-mar-2013 17:39:42 s	'MEENTCAT_PLC1' 'LOCL' SPNT issued: ' 60.00' MW	CONSTRAINT setpoint of 60 MW issued to Meentycat PLC
21-mar-2013 17:39:58 s	MEENTCAT_PLC1 SPNT 60.0 MW feedback OK: WCF = 60.1 MW	Wind farm setpoint feedback indication of 60.1MW received. Feedback OK - within setpoint feedback tolerance of +-2MW
21-mar-2013 17:40:28 s	MEENTCAT_PLC1 SPNT 60.0 MW reached: Actl = 61.2 MW	Wind farm actual power of 61.2MW received. Feedback OK - within active power feedback tolerance of +-3MW
21-mar-2013 17:43:45 s	'MEENTCAT_PLC1' 'LOCL' SPNT issued: ' 60.00' MW	CONSTRAINT setpoint of 60 MW issued to Meentycat PLC
21-mar-2013 17:44:00 s	MEENTCAT_PLC1 SPNT 60.0 MW feedback OK: WCF = 60.1 MW	Wind farm setpoint feedback indication of 60.1MW received. Feedback OK - within setpoint feedback tolerance of +-2MW
21-mar-2013 17:44:30 s	MEENTCAT_PLC1 SPNT 60.0 MW reached: Actl = 60.9 MW	Wind farm actual power of 60.9MW received. Feedback OK - within active power feedback tolerance of +-3MW
21-mar-2013 17:49:55 s	MEENTCAT_PLC1 CSTNT SPNT = 70.00, entered by TEMTEM_S	Operator enters a constraint setpoint target of 70MW for Meentycat PLC in the Wind Dispatch Tool
21-mar-2013 17:50:05 s	'MEENTCAT_PLC1' 'LOCL' SPNT issued: ' 70.00' MW	CONSTRAINT setpoint of 70 MW issued to Meentycat PLC
21-mar-2013 17:50:26 s	MEENTCAT_PLC1 SPNT 70.0 MW feedback OK: WCF = 70.1 MW	Wind farm setpoint feedback indication of 70.1MW received. Feedback OK - within setpoint feedback tolerance of +-2MW
21-mar-2013 17:51:00 s	MEENTCAT_PLC1 SPNT 70.0 MW reached: Actl = 70.1 MW	Wind farm actual power of 70.1 MW received. Feedback OK - within active power feedback tolerance of +-3MW
21-mar-2013 17:58:25 s	'MEENTCAT_PLC1' 'LCLO' SPNT issued: ' 85.00' MW	CONSTRAINT OFF setpoint of 85 MW issued to Meentycat PLC

Areas for Improvement

3. Communication of issues via Portal

- events can be edited by both parties

4. Turn around time for 10 day notification tests –

- 5 days max!
- 2 months is not acceptable
- dilutes the impact of the categorisation process
- unfair?

Areas for Improvement

5. Item will not be actioned under this process unless it is communicated via email from TSO

- e.g. if Site Operator contacted directly for an event our performance monitoring team may not be made aware if there is a follow up required.

-Suggest these events are also part of this process