

Delays

GADS Wind Training Module 11

March 2019 – Final

RELIABILITY | ACCOUNTABILITY



- This module will review:
 - What is a delay?
 - How are delays used?

Delays are optional entries. They indicate situations where work is prevented from progressing at an expected pace. This extends the downtime increasing cost and impacting revenue.

Delays come in a variety of forms:

1. Weather – A snow storm or ice on the roads may prevent access to the turbine or delivery of parts. High winds may prevent hub access, lightning is a safety risk and will delay work
2. Roads – Heavy equipment is prevented from using roads during periods of the year
3. Equipment – Availability of large cranes is a struggle in areas
4. Limited labor resources and skill can delay work
5. Inventory – All the items needed to make repairs may not be in stock. Taxes on inventory cause the industry to minimize inventory

Delays provide a method for tracking abnormal repair cycle time. Longer delays result in higher revenue losses justifying the expense of countermeasures. They also help us understand why performance targets were not met. A year is a long time and it is difficult to remember what happened a year ago on a day by day basis.

- Logging delays does not change the outage type or categorization. It's primary purpose is to understand why some repairs require extended time to complete.
 1. Planning maintenance – When is the best time to minimize loss of income
 2. Planning large equipment – When will the public roads be available for large equipment and site roads can handle the weight
 3. Justification for purchasing or contracting equipment to remove snow
 4. Justification for making site road improvements
 5. Understanding why performance expectations were not met
 6. When are the largest safety concerns seen (lightning / hail / ice)

Delays are a subset of whatever outage type the turbine is currently in. They are not used when checking for the correct calendar hour totals as they are a subset of a number that is already counted.



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