

AURORA VISION PRIME

PLANT MANAGEMENT PLATFORM

GENERAL SPECIFICATIONS



Providing proper management visibility into key energy performance indicators is imperative to running and maintaining an effective renewable energy plant that consistently meets the demands and needs of the business. Unfortunately, these indicators and metrics are often scattered across various systems making it difficult to gain management level visibility into overall plant performance.

Aurora Vision provides highly interactive, real time access to key performance and operations metrics to help plant management optimize decisions and accelerate the alignment with business goals.

Features

Real Time Visibility, Anywhere, Any Place

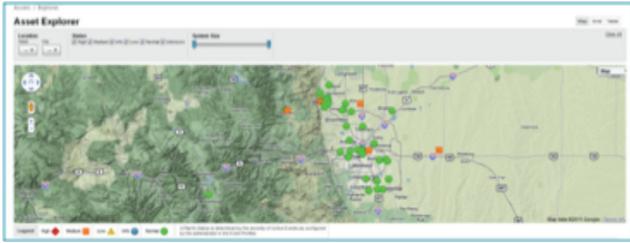
Aurora Vision is a cloud based software solution, available over the web, which provides highly interactive and real time access to the key performance and operations metrics of your power plants. Provides users a customizable and extensive collection of performance and operational metrics that are displayed in a single, consolidated dashboard view.

Scalable and Secure

Field tested, scalable and secure architecture enables reliable real time revenue grade energy monitoring and management, trusted by utility and environmental regulatory agencies to enable prompt and accurate financial rebate processing.

Extensible and Modular Solution

Modular design enables seamless integration with inverters and balance of system from Power One and a broad array of components from multiple vendors. Out of box integration with Aurora Universal, Aurora Environmental and Aurora Combiner units provide fast and easy enablement of plant operations management.



Interactive Plant Performance Visualization

Quick and easy way to monitor plants by location, status, and/or system size. Helps prioritize resolution issues based on relative importance and size of plants.



Improve Plant Performance

Optimize the operations and maintenance functions for a specific plant.



Optimize Inverter Performance

Enhanced capabilities to monitor real-time inverter performance and enable rapid identification and resolution of issues that occur.



Rapid Plant and Sub-System Diagnostics

Analyze electrical and environmental characteristics of assets which make up a sub-system of the plant such as String Combiners and Panel Optimizers.

Lifecycle Management of Plant Assets

Manage type, location, performance configurations of all the plant components such as inverter, combiner, optimizer, logger etc. This allows operator to manage individual plant components with respect to compliance, control, and performance objectives.

Analyze Events, Defects, Assets, and Suppliers

Analyze top generators of event (alert) information, enabling cross-referencing by plant, equipment type, manufacturer, location, event type, and many other parameters. This unique capability enables in-depth evaluation of your plants, including providing the ability to benchmark equipment and suppliers.

| Severity | Plant | Asset | Event Type | Duration | Event Start | Event End | Notifications | Ack | Status |
|----------|---------------|--------------|------------|----------|----------------------|----------------------|---------------|-----|--------|
| High | Lehigh School | Inverter_001 | DEFCON | Active | Nov 20, 2015 3:28 PM | Nov 20, 2015 3:28 PM | PM: PCSI | | |

Monitor Event Resolution Status

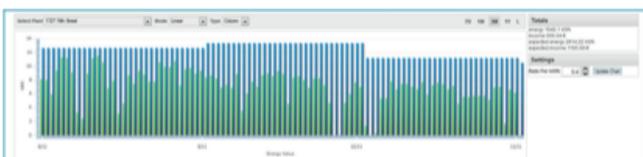
Track progress of event resolution and prioritize operational resource allocation.

Standard Portfolio Reports

Generate standard reports for energy output, system performance, performance impact for any duration for single plants, sets of plants, or the entire fleet. Export to Excel™-compatible CSV or Adobe PDF document formats.

Custom Portfolio Reports

Create custom reports against any performance criteria for any duration for single plant, set of plants or the entire fleet. Export to Excel™-compatible CSV or Adobe PDF document formats.



Performance Management across Assets

Allows you to compare asset performance across a portfolio; specific assets are plant sites, loggers, or devices. For i.e. select multiple sites/devices and chart Power (kW), Energy (kWh) or Current (amps) against Irradiance to see how sites are performing compared to the actual sunlight received.

| FEATURE | DESCRIPTION |
|----------------------------|--|
| PORTFOLIO DASHBOARD | |
| Portfolio-At-A-Glance | Executive-level dashboard for the customer's plant portfolio |
| Production Totals | Portfolio-level view of the power and energy information displayed on a daily, weekly, monthly and yearly granularity |
| Production Chart | Graph report of power and energy generated displayed on a hourly, daily and weekly granularity |
| Performance | Display expected energy, actual energy and performance ratio for the portfolio |
| Plant Status | Color-coded plant status for entire portfolio superimposed on a geographical map |
| Active Events | Top 10 recent active events, notification status and severity level as configured in the event profile |
| ASSET SUMMARY | |
| Assets | Performance management of each plant asset and its components |
| Explorer | Enables end-user to view assets by location, status (severity of active events) and system size |
| Plant Summary | Provides an operational summary of each plant's status, Size in kW, Energy produced, key events and location. |
| Inverter Summary | Performance snapshot of the inverters in a plant |
| Performance Details | Asset details of the inverter and related sensor information |
| Performance Reporting | Select and compare relative performance of multiple inverters in a plant |
| Charts | Enables the user to plot the diagnostic and performance data of a plant on daily, weekly, monthly and yearly basis |
| Diagnostic Charts | Graphical representation of Energy, DC Input, AC Output on a daily, weekly, monthly and yearly basis for the selected plant |
| Performance Charts | Historical trend reports of actual performance to budgeted performance of a plant |
| DC Combiner Diagnostics | Diagnostics based on analysis of string-level generation and usage metrics for specific assets |
| CSV Export | Enables user to export the chart as a CSV file for use in other graphing platforms |
| Environmentals | Provides a summary of environmental data pertinent to the selected plant |
| Greenhouse Avoided | Summary of CO2, Nox and SO2 avoided |
| Benefits | Computed in passenger car emission, computers per year, and TV operational energy |
| Weather | Provides weather related data pertinent to the plant |
| Asset Details | |
| Details | Information specific to asset includes: name, size, comments and install date. |
| Location | Physical address of plant including latitude, longitude, and elevation. |
| Actions | Create reports, view key events, see plant notes and add custom information about plant. |
| EVENTS SUMMARY | |
| Events | Define, monitor, detect and manage events |
| Profile Event Log | View events by profile type, plant, event severity and status. |
| Source Log | View key event for plant assets such as inverters, combiners and track start time, end time and action taken. |
| Event Profiles | Enables creation of different group profiles and assign users and events to these profiles |
| View Profile | View all active profiles in the system for the specific customer |
| Create Profile | Enables creation of a new group profile, associate events and corresponding basic/advanced severity levels |
| Assign Sites | Allows assignment of specific sites to a group profile |
| Assign Recipients | Allows assignment of specific users to a group profile |
| Explorer | Graphical representation of the events in various formats |
| Portfolio Events Chart | Pie chart representing last 300 events by manufacturers, event type, city, plant and severity |
| Portfolio Event Type Chart | Bar chart representing last 300 events by event type |
| REPORTS | |
| Reports | Standard and custom reporting capabilities |
| Portfolio | Reporting for the portfolio of plants under management |
| Standard Reports | Pre-configured reports tracking System Energy Output, System Performance, System Power Output in daily, hourly or 15 minute intervals. |
| Custom Reports | |
| Agency Report Log | Provides a timestamp log of agency reports submitted by plant, by agency, by calendar period |
| ANALYSIS | |
| Analysis | Advanced analytics and reporting capabilities |
| Interactive Charting | Enables advanced reporting and visualization of performance across plants |
| Asset Browser | Ability to select specific assets using filter criteria for advanced analysis, reporting and visualization |
| Chart Builder | Ability to select specific performance criteria for advanced analysis, reporting and visualization |



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