

Power Management Solution/Service for IPPs



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Executive Summary

The client is one of the largest Control Areas in the Southwest and is part of the U.S. Dept of Energy. The client was given the responsibility to provide the Software and 24/7 Power Scheduling and Dispatch services to **4 new IPPs** (Independent Power Producers) with total of 500 MW capacity.

Client:

Part of the U.S. Dept. of Energy

Solutions:

- Fortech's software solution for Energy Scheduling and Accounting, Scheduling interface to RLDC, SLDC, , Curtailment Module,
- 24/7 Scheduling Dispatch Services

Technology

N tier Architecture with Oracle 10G as Database, J2EE, Apache Tomcat as App-server

Highlight: Solution went live in 3 months. Customer got the benefit of improved efficiencies, accurate financial data & automated business processes from day 1 using our integrated web solution & Service

After a detailed evaluation of Fortech's solution/service, Fortech was selected to provide the Enterprise Software solutions required for the task and also to provide Real-Time, 24/7 Operations services using Fortechs Domain experts at the clients location in Phoenix Arizona. Fortech implemented the solution successfully in 4 months

Problem:

- Lack of centralized data platform fro contract/generation management
- Lack of synchronization between the schedules from various IPPs
- Long, multiple, error prone processes to balance energy data between multiple parties
- Substantial effort & resources to perform settlements / maintain control area reliability
- Complicated financial processes due to data mismatch from multiple sources
- Complicated power variations from IPPs due the fluctuations in output from the IPP generation units.
- Unforeseen curtailments that had to be handled by Real-time energy purchases and e-tag adjustments

Solution:

Using a combination of Fortech's consulting services, automation of existing systems and processes, and utilizing Fortech's Enterprise Automation Power Management solution Fortech was able to create a highly reliable integrated service platform to handle the above issues in a cost effective manner over the 3-year contract period.

Task Summary:

- Ensure IPP's compliance with Regional and State Load Dispatch and Transmission CO requirements.
- Ensure IPP's compliance with PPA contractual obligations and log appropriate (Unscheduled Interchange) fines or fees imposed as a result of operations outside of such confines.
- Coordinate with local Transmission Dispatcher on unit status, breaker positions, and system affect of IPP generation on control area during system emergencies.
- Coordinate with local Generation Dispatcher on IPP plants affect on host's control area on over-generation, under-generation, unit loss, and other requirements.
- Coordinate generation of IPP plants.
- Coordinate real-time schedule changes within the hour for reliability and system integrity.
- Verify and implement next hour schedules received from merchant plant function with control areas involved in IPP generation schedules.
- Verify (after the hour) actuals, deviations, and integrations with merchant function and control areas involved in IPP generation schedules.
- Coordinate with merchant function to purchase or sell energy necessary to maintain schedules or control area reliability.
- Coordinate with Marketers to purchase or sell energy to maintain control area reliability.
- Record and maintain accurate logs and data on IPP generation, events, outages, and curtailments.



Real-time Tasks:

Confirm (hourly) gross plant schedules:

- Interchange schedules
- Transmission losses schedule
- Energy reservation schedule
- Deviation pay back schedules

Confirm (hourly) appropriate use of transmission rights

- Firm rights
- Non-firm rights
- Redirect rights

Confirm (hourly) gross plant resources:

- Purchases
- Gross plant generation
- Plant sales generation
- Transmission losses generation
- Energy reservation generation
- Deviation pay back generation

Respond to gross plant generation to gross plant schedule delta:

- Within bandwidth
 - Trend to zero
 - Outside minimum bandwidth
 - Make purchase if appropriate
 - Modify or terminate interchange schedule if appropriate
 - Outside maximum bandwidth
 - Make sale if appropriate
 - Modify or terminate interchange schedule if appropriate
- (monitor hourly and respond if appropriate)***

Respond to resource losses:

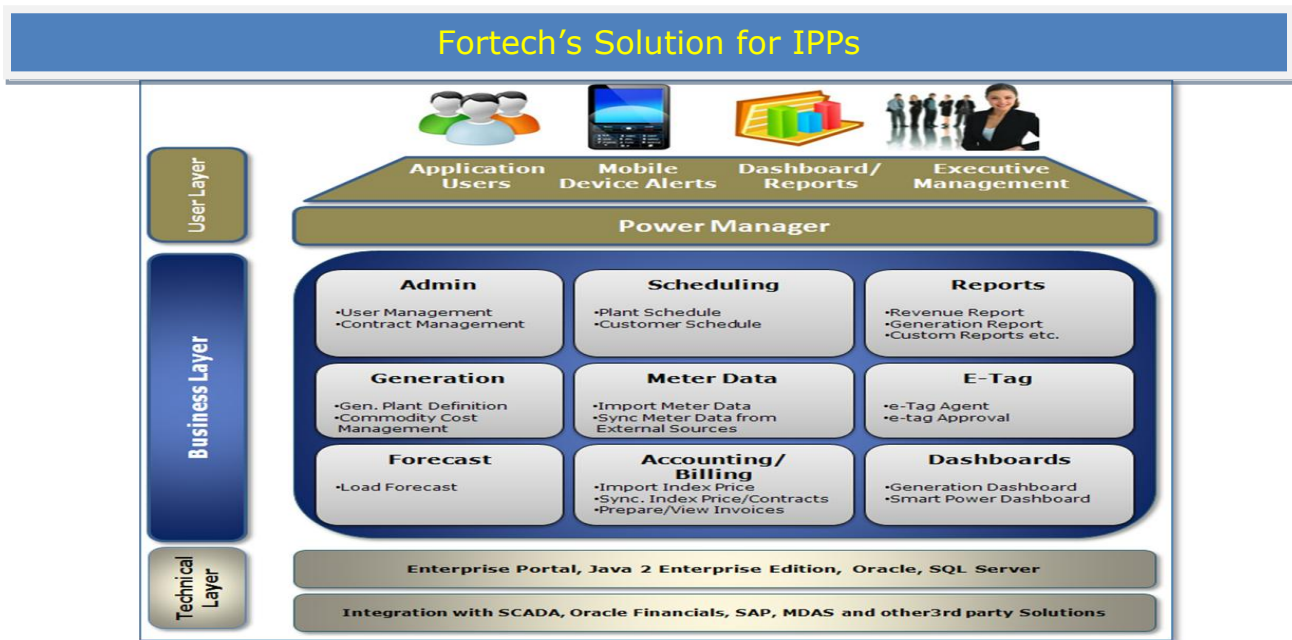
- Implement replacement energy schedules if appropriate
 - Modify or terminate transmission losses as appropriate
 - Modify or terminate energy reservation schedule as appropriate
 - Modify or terminate deviation pay back schedule as appropriate
 - Modify or terminate interchange schedules if appropriate and notify sink control area
 - Communicate with Real-time Scheduler regarding schedules implemented, modified, or terminated
- (monitor hourly and respond if appropriate)***

Reports & Documentation:

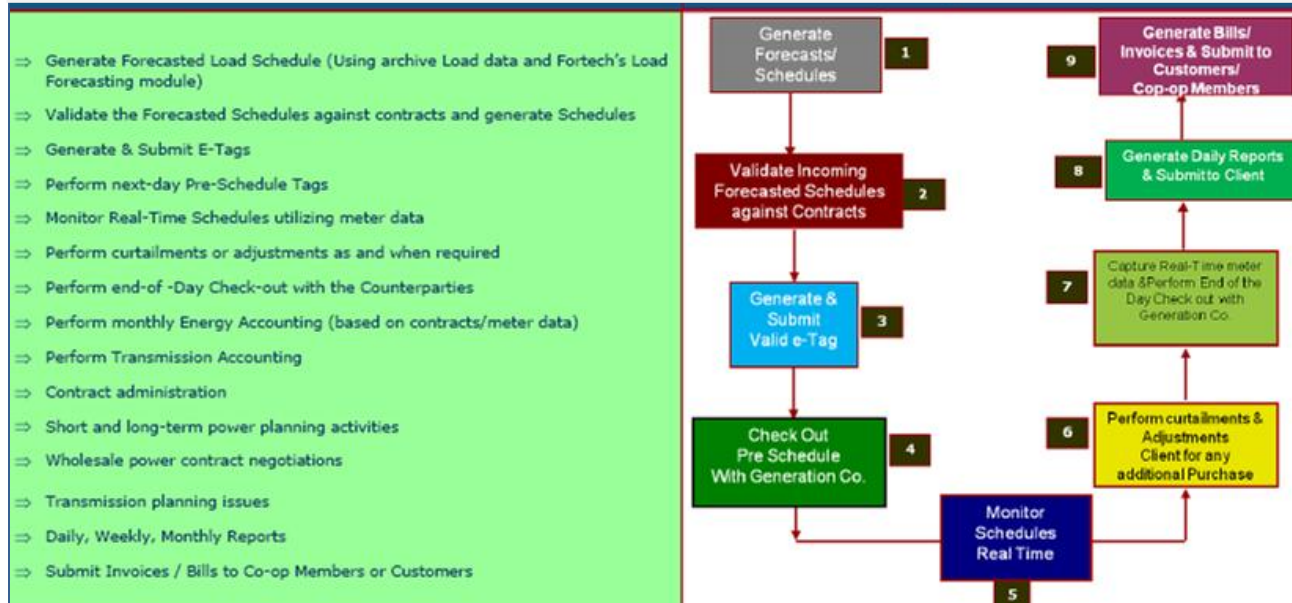
- Logs (daily)
- Reports (as needed)
- Forms (as needed)



FORTECH'S SOLUTION & SERVICE:



Fortech's IPP Scheduling & Dispatch Services



Results:

The integrated 24/7 Power Scheduling and Dispatch services went live in 3 months, on budget and has had no failures. Benefits include increased efficiencies, elimination of manual processes, elimination of multiple data entry's and the ability to handle a marked increase in the quantity and frequency of transactions with a clear real-time visibility into all transaction details. After the 3 year contract period, the Client is using Fortech's solution(s) to provide the 24/7 Power Scheduling and Dispatch services using its own team.