



Olivine RFI Response to Demand Response Auction Mechanism (DRAM)

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SUBMITTED BY:

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SUMMARY

Olivine is committed to helping demand-side resources achieve their grid services value through cost-effective integration and has created a platform that paves the way for distributed resources to participate.

As the first third-party to integrate with the CAISO for demand-side resources, we have been actively involved in stakeholder groups to define PDR and related processes, the DRAM and other rules and initiatives. Leading the way to resolve important and complex issues for this goal to be realized, Olivine has supported critical initiatives such as utility pilots and independent studies.

Olivine is currently the only third-party Scheduling Coordinator/ Demand Response Provider (SC/DRP) that has bid PDR into the market and our experience enables us to provide high-value support and insight to our clients. We look forward to working with DRAM participants and will apply our deep knowledge and expertise to offer high-value SC/DRP services.

CONTACT INFORMATION

Olivine Inc.
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Please direct questions to:

Beth Reid (408) 759-0360 breid@olivineinc.com	Spence Gerber (916) 259-3690 sgerber@olivineinc.com
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RFI QUESTION RESPONSES

Are you registered to provide scheduling coordinator services? If yes, what is your SCID Number?

Olivine is currently registered to provide scheduling coordinator services. Our core SCID number is 7061 and we maintain others to support data separation as necessary.

Are you currently bidding into the CAISO Market? Are you actively bidding?

Olivine is actively bidding into the CAISO market and has been for more than four years including Day-Ahead Energy, Real-Time Energy and Non-Spinning Reserves. We are currently bidding in Proxy Demand Resource (PDR) with the first PDR bids starting in 2011. Olivine's team also handled Participating Load previously.

Have you ever bid into other wholesale energy markets?

Olivine is not currently active in other wholesale energy markets, but is working to become registered in PJM.



Are you a certified woman, minority, disabled veteran, lesbian, gay, bisexual and/or transgender business enterprise (WMDVLGBTBE) Supplier?

Olivine was previously a woman-owned business. Recertification is in process.

Describe some of the terms and conditions under which you'd provide SC services to Sellers.

- *Size Limitations (e.g. a minimum PDR size that you will schedule?).* **None**
- *Location Limitations (e.g. restrictions on where the PDR is located in California?).* **None. Olivine will be offering SC and DRP services to PDRs in Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric service areas.**
- *Registration Limitations (e.g. restrictions on the number of PDR registrations?).* **None.**
- *Seller Security Requirements.* **Security requirements will be based on proposed bids and if deemed necessary will be determined through consultation with client.**
- *Billing Arrangements.* **Standard billing terms for services are net 30 days with market settlement payments based on the CAISO calendar.**

DESCRIPTION OF SERVICES

Under the DRAM, Olivine is prepared to provide the following services for each DRAM resource being bid into the CAISO market from January 2017 to December 2017. We are currently handling all of these tasks.

- Bid into the CAISO market
- Provide award information to the Aggregator/Seller
- Provide CAISO settlements to Aggregator/Seller for performance in the market
- Calculate CAISO Grid Management Charges for Aggregator/Seller (grid management charges themselves are calculated by the CAISO; however Olivine manages the processing)
- Validate Availability of Demonstrated Capacity (including potential audit fees)
- Certify that the resource is bid at or above the Net Benefits Test (NBT)
- Submit Meter data to CAISO
- Meter data submission
- Submit resource outage information to CAISO (via the Outage Management System (OMS))
- Submit requests to CAISO to change resource operating parameters in the CAISO Master File (via the Resource Data Template)
- Submit CIDI tickets to CAISO



Other services Olivine will provide

Olivine will provide wholesale DRP services for DRAM participants as well as Retail DRP services as necessary to support Rule 24/32 operations. Further we offer access to the full suite of capabilities in the **Olivine DER System** to assist participants in managing their contracts and resources. This award-winning, highly configurable system enables all aspects of wholesale market as well as utility managed grid services and operational simulation while being agnostic as to the specific technology associated with the resource. It includes the capability to separate data for co-mingled/joint PDRs, to create individual Seller streams as necessary and more advanced capabilities such as real-time telemetry (see attachment for details).

Olivine is also offering compliance management and invoicing services and meter data management services including data retrieval, and SQMD processing.

Other considerations for potential DRAM Sellers

Olivine is currently working with a number Phase 1 DRAM awardees to deliver their contracts. In leading the way to resolve important and complex issues for the DRAM to be successful, Olivine has supported critical initiatives such as utility pilots and independent studies. We are currently the only third-party SC/DRP that has bid PDR into the market and our experience enables us to provide valuable support and insight to our clients as opposed to learning the process through our clients.

Olivine offers several different options for DRAM support with special consideration provided to our DER Coalition members. The **DER Coalition** is a new, collective group of companies working collaboratively to ensure the full potential of DERs is realized in the electricity marketplace. These select change-making businesses are working together to share the risk and rewards of the evolving clean energy economy and new electricity grid. Special pricing on DRAM services is available to **DER Coalition** members.

For more information, visit olivineinc.com.



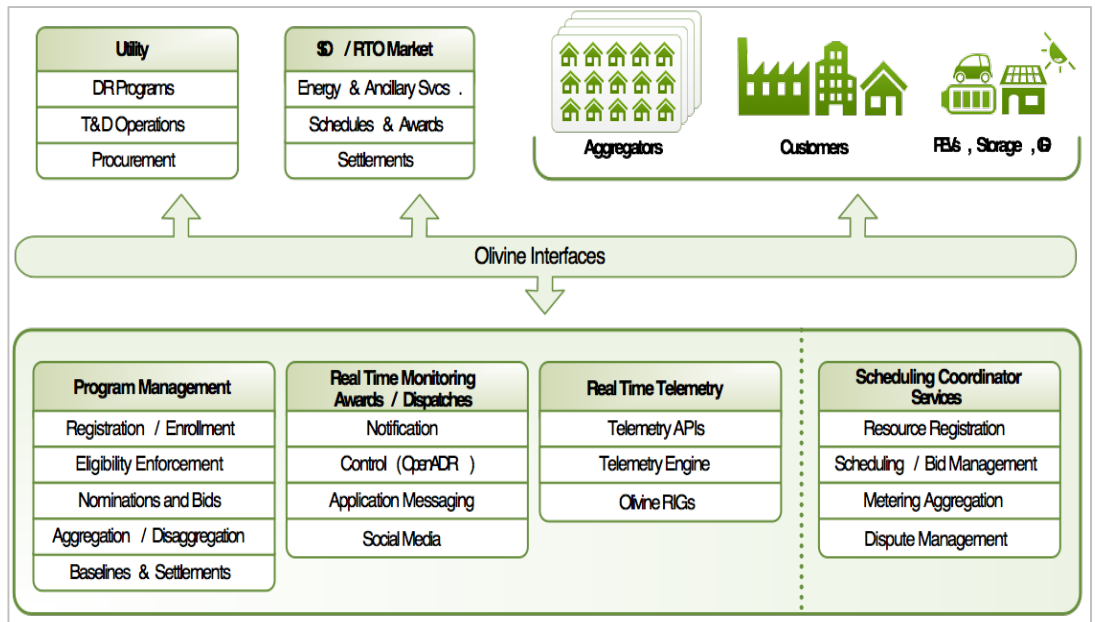
About Olivine

Olivine works cooperatively with clients to provide program management, real-time bidding and award monitoring, telemetry and coordinating scheduling coordinator services. Olivine's core services leverage the Olivine DER System, a comprehensive distributed energy management platform designed to lower costs and maximize the value of DERs. It is used by utilities as well as other service and resource providers for distribution and transmission services.

Our services encompass market entry analyses such as revenue opportunity assessments, ongoing operational management and administrative support. Olivine is a registered DRP and Scheduling Coordinator with the CAISO and is already fully integrated and interfacing with the CAISO on a daily basis. We are rooted in deep domain expertise coupled with cutting edge knowledge and capabilities. Olivine's hands on approach and 360 degree perspective (policy, IT, process) provides a unique point of view ensuring our customers receive specialized support to integrate the spectrum of resources with individualized issues and goals.

Olivine DER System

Our award-winning, highly configurable system enables all aspects of wholesale market as well as utility managed grid services and operational simulation while being agnostic as to the specific technology associated with the resource.



Olivine offers a full suite of services to enable the integration and ongoing management of distributed and aggregated energy resources providing grid services.



DER System features include:

- Advanced extensibility and rapid modeling capabilities allow our customers to handle new business rules, workflows, settlement tariffs and baseline algorithms with minimal effort.
- Resource management capabilities with support for flexible entity hierarchies and custom attributes to meet diverse and fluctuating business requirements, to track complex eligibility criteria, and to manage administrative and operational contacts.
- A link between retail and wholesale resources to facilitate enrollment, bid optimization, award tracking, automated dispatch and telemetry aggregation for dual purpose and multi-use resources.
- Real-time aggregation and disaggregation capabilities provide extensive performance data, including metered load/telemetry, calculated or imported baselines, target load and estimated financial impact.
- Standards-compliant integration with resources for control and telemetry (e.g. OpenADR 2.0b).
- Advanced features, such as flexible event targeting (e.g., by pricing node, feeder, circuit, or bid price), automatic versioning of meter data and settlement runs for auditing purposes, multiple-window effective periods on business entities and relationships, sophisticated support for nomination schedules and a state of the art authorization system.
- Real-time telemetry to support demand-side ancillary services via a software based Remote Intelligent Gateway (RIG).

Some key accomplishments & awards

As the single most experienced provider in California for integrating demand-side and renewable resources into wholesale markets, Olivine has a unique and valuable expertise that's simply not available anywhere else. Some of our key accomplishments include:

- Olivine-administered program, Pacific Gas and Electric's Supply-Side Pilot, was named a finalist in the 2016 DistribuTech Awards for demand response and energy efficiency
- Winner of the 2015 Fierce Energy Innovation Award for End Use: Demand Response/ Demand-Side Management category for its innovative, industry-leading product, the **Olivine DER System**





Some key accomplishments & awards (continued)

- First demand-side resources to be certified and put into production in California (working with SDG&E)
- First third-party to register demand side resources as PDR in California markets
- Development and certification of the first CAISO certified software RIG (Remote Intelligent Gateway) for telemetry
- Developed a model for linking direct participation in the wholesale market to capacity payments from the utility (under PG&E's Intermittent Renewable Management Pilot) that is the basis for the current DR Auction Mechanism pilot
- First third party to provide battery storage into the California markets
- Consultant for the development of the CA Energy Storage Roadmap
- Technical integration of energy storage systems and EV fleets directly into energy markets
- Development of an operational market simulation system to enable battery storage and other resources to test their systems using real market data prior to full interconnection and integration

LEARN MORE

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Information for Scheduling Coordinator Request for Information

Company Name of Scheduling Coordinator: Olivine, Inc.

Address of Company: 2010 Crow Canyon Place
Suite 100
San Ramon, CA 94560

Contact Name: Beth Reid
Contact Phone Number: (408) 759-0360
Contact Email: breid@olivineinc.com

Contact Name: Spence Gerber
Contact Phone Number: (916) 259-3690
Contact Email: sgerber@olivineinc.com

Are you registered to provide scheduling coordinator services? Yes

If yes, what is your SCID Number?

7061 is Olivine core SCID, and we maintain others to support data separation as necessary

Are you currently bidding into the CAISO Market? Yes

If yes,

Are you actively bidding? Yes

Are you bidding in Proxy Demand Resource, Reliability Demand Response Resource, or Participating Load Yes, currently PDR

How long have you been bidding into the market?

Four years including Day-Ahead Energy, Real-time Energy and Non Spinning Reserves. Our first PDR bids started in 2011. Olivine's team also handled Participating Load previously.

If not,

Have you previously bid products into the CAISO market? _____

If so, what products were bid in? _____

If so, when were these products bid in? _____

Have you ever bid into other wholesale energy markets?

No, but Olivine is in the process of registering with PJM.

If so, what products were bid in? _____

If so, when were these products bid in? _____



Are you a certified woman, minority, disabled veteran, lesbian, gay, bisexual and/or transgender business enterprise (WMDVLGBTBE) Supplier? Recertification is in process.

Describe some of the terms and conditions under which you'd provide SC services to Sellers.

Size Limitations. None
Location Limitations. None
Registration Limitations. None

Seller Security Requirements. Security requirements will be based on proposed bids and if deemed necessary will be determined through consultation with client.

Billing Arrangements. Standard billing terms for services are net 30 days with market settlement payments based on the CAISO calendar.

As a general matter, the SC will be required to provide the following services for each DRAM resource being bid into the CAISO market from June 2016 to December 2016. At a minimum, the SC will need to perform the following tasks:

- Bid into the CAISO market
- Provide award information to the Aggregator/Seller
- Provide CAISO settlements to Aggregator/Seller for performance in the market
- Calculate CAISO Grid Management Charges for Aggregator/Seller
- Validate Availability of Demonstrated Capacity (including potential audit fees)
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- Submit CIDI tickets to CAISO

Olivine is currently and actively handling all of these tasks. As a point of clarification, Grid Management Charges themselves are calculated by the CAISO. However Olivine manages the processing.



What other services could you provide to the Seller that may be of interest (e.g. can you act as a wholesale DRP? Can you separate data within one PDR into individual Seller streams, if several aggregators have put their customers into one PDR?)

Olivine will provide wholesale DRP services for DRAM participants as well as Retail DRP services as necessary to support Rule 24/32 operations. Further we offer access to the full suite of capabilities in the Olivine DER System to assist participants in managing their contracts and resources. This award-winning, highly configurable system enables all aspects of wholesale market as well as utility managed grid services and operational simulation while being agnostic as to the specific technology associated with the resource. It includes the capability to separate data for co-mingled/joint PDRs, to create individual Seller streams as necessary and more advanced capabilities such as real-time telemetry (see attachment for details).

Olivine is also offering compliance management and invoicing services and meter data management services including data retrieval, and SQMD processing.

Other considerations for potential DRAM Sellers?

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