

Exhibit A
Master City of San José Consultant Agreement
Approved Service Order Form
(Non-Capital Projects)

Cover Page

1a. Intentionally Omitted **1b.** AC Contract No.: OC-000602-002

2. Approved Service Order No. 2

3. Consultant's Name: Ascend Analytics

4. Project Name: 2022 Integrated Resource Plan ("Project")

5. Project Location:

6. The Consultant and the City will implement this Approved Service Order in accordance with the Master Agreement, this cover page and Attachments "A" (Tasks), "B" (Terms and Conditions), and "C" (Compensation Table), and Exhibit "D" (Schedule of Specific Services) which are incorporated herein by references.

7. Budget/Fiscal:

a. Current unencumbered amount in Master Agreement:	\$	302,430.00
b. Maximum Service Order Compensation for this Approved Service Order:	\$	161,875.00
c. New unencumbered balance in Master Agreement (7.a – 7.b):	\$	140,555.00

d. Appropriation Certification: I certify that an unexpended appropriation in the amount of the Maximum Service Order Compensation is available in the following fund(s) and that such fund(s) will be encumbered to pay for this Approved Service Order.

Fund: 501_____	Appn: 0782_____	RC: 100100_____	Amount: \$ 161,875 _____
Fund: _____	Appn: _____	RC: _____	Amount: \$ _____
Fund: _____	Appn: _____	RC: _____	Amount: \$ _____

Authorized Signature: *Han Nguyen*
Han Nguyen (10/7/2021)
 Email: han.nguyen@sanjoseca.gov Date: _____

8. Division Analyst Approval: *Angela Sato-Anderson*
angela.sato-anderson@sanjoseca.gov (10/6/2021)
 Email: angela.sato-anderson@sanjoseca.gov Date: _____

9. Consultant Approval: *Scott N. Whigglesworth*
swigglesworth@ascendanalytics.com (10/6/2021)
 Email: swigglesworth@ascendanalytics.com Date: _____

10. Approval as to Form (City Attorney):

Service Order Form Approved by the Office of the City Attorney
 (Maximum Service Order Compensation is \$100,000 or less, and the provisions of the service order form are not altered.)

Approved as to Form: *Lynne E. Lampros*
Lynne Lampros (10/6/2021)
 Email: lynne.lampros@sanjoseca.gov Date: _____

(Sr.) Deputy City Attorney

11. City Director Approval: *Lori Mitchell*
Lori Mitchell (10/7/2021)
 Email: lori.mitchell@sanjoseca.gov Date: _____

Attachment A: Tasks

The Consultant shall provide the services and deliverables set forth in this **Attachment A**. The Consultant shall provide all services and deliverables required by this **Attachment A** to the satisfaction of the City's contract manager.

General Description of Project for which Consultant will Provide Services: Ascend will work with SJCE staff to develop the 2022 Integrated Resource Plan (IRP). The team will use PowerSimm to choose future resources that meet compliance and internal GHG reduction targets.

Task No. 1: Project management:

A. Services:

1. Develop, get SJCE approval of, maintain, and revise as necessary with SJCE's approval, a project plan and schedule that reflects the milestones in this SO.
2. Hold half-hour weekly check in meetings to obtain consensus on assumptions, goals, procurement preferences and plans. Circulate brief agenda before and summary of meeting take-aways after meeting.
3. Track and ensure timely progress in accordance with project plan and schedule of deliverables.
4. Monitor CPUC IRP proceeding to ensure the plan and modeling meets all regulatory requirements.
5. Track budget and submit monthly detailed invoices for work undertaken and completed.

B. Deliverables:

1. Project plan and schedule updated to reflect current status on a weekly basis;
2. weekly meeting agenda and summary,
3. monthly invoices.

C. Completion Time: The Consultant must complete the services and deliverable for this task in accordance with whichever one of the following time is marked:

- On or before the following date: Within 5 business days of SO execution – project plan and schedule; updated weekly.
- One day before each weekly meeting, provide meeting agenda.
- One day after each weekly meeting, provide meeting summary.
- Submit monthly invoices in accordance with Master contract requirements.

Task 2: Define objectives, assumptions, modeling approach, model set up and validation.

A. Services:

1. Update SJCE information – load, resources, etc.
2. Define scenarios: (1) a CPUC Case to be submitted to the CPUC that complies with all CPUC requirements, and (2) alternate scenario(s) for internal strategy and goal setting. SJCE must finalize its requirements for the first alternate case by December 1, 2021. SJCE may define a second alternate case after initial results are available from running the initial two cases; provided that it must define this case no more than 15 days after the initial results are available.
3. Develop master assumptions spreadsheet from CPUC and other sources.
4. Simulate NP-15, SP-15, and resource LMP prices. Simulation of CPUC required case and 30 MMT system prices (optional).
5. Set up and validate SJCE portfolio and test Automatic Resource Selection (ARS), including constraints.

B. Deliverable:

1. Template for SJCE to input key SJCE required inputs (within 5 business days of SO execution)
2. Validated populated template with key SJCE required inputs (within 20 business days of SO execution)
3. PowerPoint documentation of modeling plan (within 20 business days of SO execution)
4. PowerPoint documentation of scenarios. (For CPUC case and alternate case 12/15/21; if applicable, for alternate case 3/15/21)
5. Master assumptions spreadsheet (15 days after CPUC issues its assumptions)
6. Spreadsheets documenting the key assumptions on resource cost and performance. (20 days after CPUC issues its assumptions)
7. Spreadsheet of NP-15; SP-15 and resource LMP prices calculated using the CPUC's required case. (30 days after CPUC issues its assumptions)
8. If applicable, spreadsheet of 30MMT NP-15; SP-15 and resource LMP prices. (30 days after CPUC issues its assumptions)

C. Completion Time: The Consultant must complete the services and deliverable for this task in accordance with whichever one of the following time is marked:

- See above

Task No. 3: Modeling Runs

A. Services: Execute model runs for 2 – 3 Scenarios: 1) a compliant scenario that meets all CPUC requirements (the CPUC case); and 2) an alternate case that models SJCE goals (alternate case 1). In addition, if SJCE opts to go forward with a second alternate case (alternate case 2) SJCE will inform Ascend in writing of its desire to add a case. In addition, SJCE may ask Ascend to run one or both of the alternate scenarios using simulated NP-15, SP-15, and resource LMP prices, assuming a 30 MMT case. If SJCE opts to go forward with use of 30MMT system prices, SJCE will inform Ascend in writing. Modeling will comply with all applicable CPUC requirements and will provide the information needed to fill CPUC resource data templates and to calculate GHG emissions using the 2022 CPUC GHG model.

1. The CPUC case will be a single portfolio designed in consultation with SJCE.
2. For alternate scenario(s), we will use Automatic Resource Selection (ARS) tool with minimal constraints other than RPS and GHG, adding additional constraints as necessary.
3. Work in an iterative fashion until Ascend and SJCE are satisfied that expansion plans are complete.
4. Model will be run hourly.
5. Batteries will receive a sub-hourly value adder to reflect real-time market value.

A. Deliverable:

1. PowerPoint setting forth for each case the key inputs, and the key modeling results. (For the CPUC case and alternate case 1, no later than January 15, 2022, or 20 days after the CPUC issues its templates and assumptions, whichever is later. If applicable for alternate case 2, no later than 45 days after the initial cases are completed.)
2. Spreadsheet setting forth for each case the key inputs, and the key modeling results. (For the CPUC case and alternate case 1, no later than January 30, 2022, or 30 days after the CPUC issues its templates and assumptions, whichever is later. If applicable for alternate case 2, no later than 60 days after the initial cases are completed.) For each case, results must include in addition to CPUC required results:
 - i. An expansion plan showing the type and amount of resources to be added each year for the study period
 - ii. A portfolio summary on an annual basis for the study period including:
 1. Resources by type in MWs and MWhs
 2. Peak Demand
 3. Planning Reserve Margin
 4. RA Open Balance
 - iii. Portfolio costs on an annual basis for the study period in totals and as projected \$/MWh broken out by:
 1. Energy
 2. RA
 3. Renewable Attributes
 4. GHG-free attributes
 5. Total
 - iv. Portfolio RPS and GHG-free attributes an annual basis for the study period in totals and as % of the load broken out by:
 1. PCC1
 2. PCC2
 3. GHG-free

4. RPS long term contracts
5. GHG emissions from the portfolio

C. Completion Time: The Consultant must complete the services and deliverable for this task in accordance with whichever one of the following time is marked:

- On or before the following date: (See above)
- On or before ____ Business Days from

Task No. 3: Reporting

A. Services: Ascend will contribute to the modeling sections of the IRP report. Ascend will assist SJCE to fill out required CPUC forms using Ascend modeling results, however filling out the forms is **out of scope**.

- At a minimum, IRP Sections completed by Ascend will include the following (named from 2020 IRP – analogous sections must be completed by Ascend):

1. Study Design

- a. Objectives
- b. Methodology
- c. Modeling tools
- d. Modeling approach

2. Study Results

- a. Portfolios
- b. GHG Emission Results
- c. Cost and Rate Analysis
- d. System Reliability Analysis
- e. Minimize impacts of Local Air Pollution (with assistance from SJCE)
- f. Hydro generation risk management
- g. Long duration storage and Out of State Wind development
- h. Transmission development

B. Deliverable: Report sections and spreadsheet model results.

C. Completion Time: The Consultant must complete the services and deliverable for this task in accordance with whichever one of the following time is marked:

- On or before the following date: the later of March 31, 2022 and 20 days after CPUC issuance of final assumptions and requirements.
- On or before ____ Business Days from

SJCE and Consultant are aware that delays in CPUC issuance of assumptions compromise the ability of Consultant and SJCE to undertake analysis and prepare reports sufficient to obtain approval of IRP documents by the SJCE Risk Oversight Committee (ROC) in May 2022, and San Jose City Council in June of 2022. In the event of such delays, Consultant and SJCE will agree in writing on an adjustment to the deadlines in this Service Order such that documents can be finalized and presented for approval to the ROC and City Council before being filed with the CPUC, in the manner that reasonably meets the needs of Consultant and SJCE.

Attachment B: Terms and Conditions

1. **City's Contract Manager:** The City's contract manager for this Approved Service Order is:

Name: Paul Innamorato	Phone No.:
Department: Community Energy	E-mail: paul.innamorato@sanjoseca.gov
Address: 200 E Santa Clara St. San Jose, CA 95113	

2. **Consultant's Contract Manager and Other Staffing:** Identified below are the following: (a) the Consultant's contract manager for this Approved Service Order, and (b) the Consultant(s) and/or employee(s) of the Consultant who will be principally responsible for providing the services and deliverables. ***If an individual identified below does not have a current Form 700 on file with the City Clerk for a separate agreement with the City, and is required to file a Form 700, the Consultant must comply with the requirements of Subsection 17.2 of the Master Agreement, entitled "Filing Form 700."***

		<u>Required to File Form 700?</u>		
		Yes Already Filed (Date Filed)	Yes Need to File	No
<u>Consultant's Contract Manager</u>				
Name: Scott Wrigglesworth	Phone No.: 937-701-7205			X
Address: 1877 Broadway, Suite 706, Boulder, CO 80302	E-mail: swrigglesworth@ascendanalytics.com			
<u>Other Staffing</u>				
<u>Name:</u>	<u>Assignment:</u>			
1. David Millar	IRP Project Manager			x
2. Jon Gordon	Senior Principal			x
3. Anthony Boukarim	Senior Consultant			x
4. Moein Choobineh	Senior Energy Analyst/Modeler			x
5. Brent Nelson	Market Intelligence Lead			x

3. **Subconsultants:** Whichever of the following is marked applies to this Approved Service Order:

- The Consultant can **not** use any subconsultants.
- The Consultant can use the following subconsultants to assist in providing the required services and deliverables:

<u>Subconsultant's Name</u>	<u>Area of Work</u>
1.	
2.	
3.	

4. **Reimbursable Expenses:** If the Compensation Table set forth in **Attachment C** of this Approved Service Order states that the City will reimburse the Consultant for expenses, then only the expenses identified in Subsection 10.5.3 of the Master Agreement are Reimbursable Expenses unless the following box is marked and additional reimbursable expenses are set forth:

- In addition to the expenses identified in Subsection 10.5.3 of the Master Agreement, the following expenses are Reimbursable Expenses:

<u>Additional Reimbursable Expense(s)</u>	<u>Mark-up</u>
1. _____	_____
2. _____	_____
3. _____	_____

Notwithstanding the foregoing, any additional reimbursable expense(s) set forth in the above table will be disregarded if the Compensation Table states that the City will *not* reimburse the Consultant for any expenses.

Attachment C: Compensation Table

The City will compensate the Consultant for providing the services and deliverables set forth in **Attachment A** in accordance with this Compensation Table. This Compensation Table is subject to the terms and conditions set forth in the Master Agreement, including without limitation Section 10 of the Master Agreement.

Part 1 – Compensation for Services and Deliverables				
Column 1	Column 2	Column 3		Column 4
Task Nos. from Attachment A	Basis of Compensation	Invoice Period		Compensation
1	<input checked="" type="checkbox"/> Time & Materials <input type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly	<input type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$13,687.50
2	<input checked="" type="checkbox"/> Time & Materials <input type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly	<input type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$68,437.50
3	<input checked="" type="checkbox"/> Time & Materials <input type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly	<input type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$34,218.75 (for 2 scenarios)
3	<input checked="" type="checkbox"/> Time & Materials <input type="checkbox"/> Fixed Fee	<input checked="" type="checkbox"/> Monthly	<input type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$20,531.25 (cost of optional additional scenario if requested)
Fundamental Market Curve 38 MMT	<input type="checkbox"/> Time & Materials <input checked="" type="checkbox"/> Fixed Fee	<input type="checkbox"/> Monthly	<input checked="" type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$15,000
Fundamental Market Curve 30 MMT	<input type="checkbox"/> Time & Materials <input checked="" type="checkbox"/> Fixed Fee	<input type="checkbox"/> Monthly	<input checked="" type="checkbox"/> Completion of Task(s) <input type="checkbox"/> Completion of Work	\$10,000 (if requested)
Part 2 – Reimbursable Expenses				
<input type="checkbox"/> No expenses are separately reimbursable. The amount(s) in Column 4 of Part 1 include(s) payment for all expenses.		<input type="checkbox"/> Expenses are separately reimbursable in the maximum amount of: \$		
Part 3 – Subconsultant Costs				
<input type="checkbox"/> Subconsultant costs are not separately compensable. The amount(s) in Column 4 of Part 1 include(s) subconsultant costs.		<input type="checkbox"/> Subconsultant costs are separately compensable in the maximum amount of: \$		
Maximum Service Order Compensation (sum of Parts 1 through 3):				
				\$161,875