



Powering Large Energy Loads with IID's Network Integration Transmission Service (NITS)

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This overview is based on the Imperial Irrigation District Open Access Transmission Tariff, dated September 9, 2025, Section 3 Network Integration Transmission Service¹.

The Imperial Irrigation District (IID) is unique as a public power entity because it provides the option of supplying new energy loads from specific network resources interconnected to and utilizing its transmission system. Under Network Integration Transmission Service (NITS), IID allows new loads—those not considered "native loads"—to source their energy from designated network resources utilizing IID's transmission system. IID's rate base does not include energy procurement, which occurs via bilateral power purchase agreements or market purchases. Transmission and reliability charges for these new loads are rate-based, mirroring the treatment for native load. Essentially, IID acts as the utility responsible for providing transmission, distribution, and reliability services by operating the network, managing the NITS, and ensuring compliance with all North American Electric Reliability Corporation (NERC) standards for every network customer. The following is a brief explanation of how it works:

Definition and Terms:

1. **IID is not FERC-jurisdictional** for transmission rate setting, meaning it sets its own rates locally, but they must be "just and reasonable" and nondiscriminatory.
2. **IID is not CPUC-jurisdictional for retail rate setting**, meaning it sets its own rates locally, but they must be "just and reasonable" and nondiscriminatory.
3. **IID is a Balancing Authority and is not managed by the California Independent System Operator (CAISO)**. IID is separate and has similar balancing functions as the CAISO
4. **IID's Open Access Transmission Tariff (OATT) Structure:** IID operates under its own OATT, adopted in 2001, which includes:
 - Part I: Point to Point Transmission Service
 - Part II: Network Integration Service (NITS)
 - Part III: Generator Interconnection Service
5. **Transmission Provider**, within the IID balancing authority is IID
6. **Network Customer** is the owner of a new load within IID service area, such as new data center load.
7. **Native Load** is existing IID retail load
8. **Network Resources** are new or existing generating facilities interconnected to the IID transmission system but not owned by IID. All IID existing generators are dedicated to serving IID native load at retail rates set by IID. Existing IID loads pay retail energy, transmission and distribution rates set by IID.

Currently, IID has not planned or procured energy to serve any large new load. Procurement requirements are based on forecasted load amounts.
Network Resources shall include all generation owned, purchased, or leased by the Network Customer designated to serve a clearly defined and specific Network Load under the IID OATT.
9. **Network Integration Transmission Service** allows a Network Customer to use the IID transmission system to integrate and economically dispatch designated generation sources (Network Resources) to serve their customers (Network Load), in a manner comparable to how IID serves its own native load.

¹ <https://app.oasis.oati.com/iid/index.html>

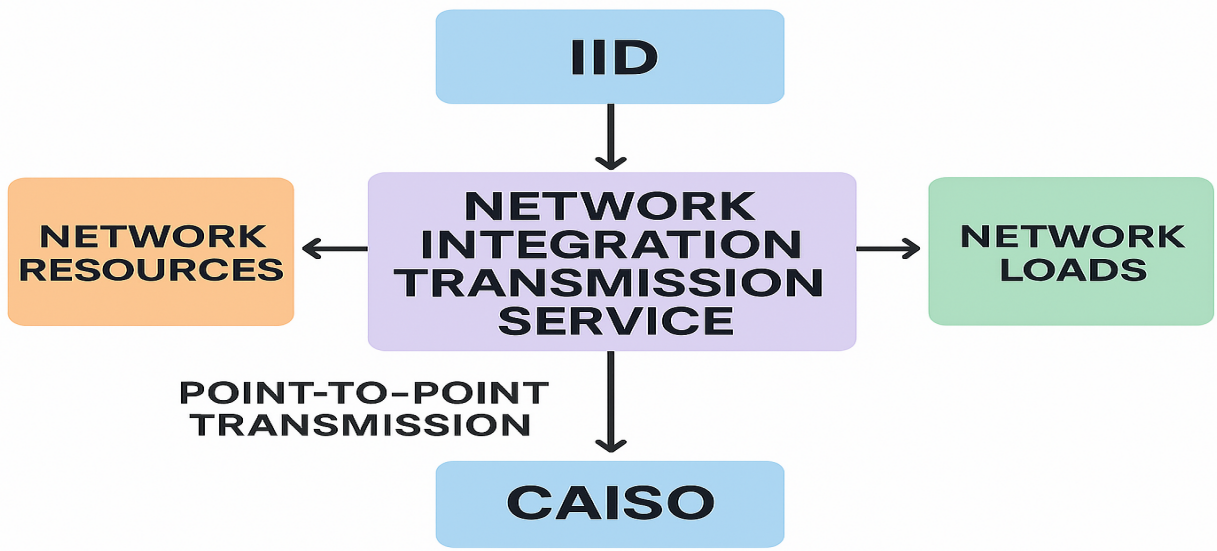


10. This service provides the ability for a Network Customer to use a physical generator not owned by IID, nor located anywhere within the IID service area, to service its Network Customer load. NITS is designed for entities that have multiple resources and new loads within IID's system and desire the flexibility to move power among them without needing separate, individual point-to-point reservations.

NITS is a firm service that facilitates the delivery of electric power from designated resources to designated loads. Unlike point-to-point service, which handles fixed source-to-sink transactions, NITS is specifically designed for integrated operations across a Network Customer's multiple resources and loads.

A key feature of NITS is its ability to allow the Network Customer to integrate, economically dispatch, and regulate its own network generators (or those under contract) to serve its Network Load using the Transmission Provider's transmission network. The service can also be used to deliver economic energy from non-designated resources on an as-available basis without additional charge.

As the Transmission Provider, IID ensures system reliability by including Network Customer loads in its system planning, providing comparable service to its own retail loads. The Provider is responsible for planning, constructing, operating, and maintaining its transmission system in accordance with Good Utility Practice to reliably provide this service to the Network Customer.



11. IID NITS Cost is based upon:

- **Monthly Demand Charge:** Calculated using the customer's **Network Service Peak Load contribution** (including losses) and IID's NITS rate.

This ensures each Network Customer pays a share of IID's total transmission revenue requirement proportional to their load.

- **Direct Assignment Facilities Charge:** If upgrades or new facilities are needed for the service, the customer pays those costs.





- **Reliability/Ancillary Services:** Network Customers must also pay for ancillary services required to support transmission reliability. The Network Customer is responsible for replacing losses associated with all transmission services as calculated by the Transmission Provider. The applicable Real Power Loss factor is 3%.

Example of costs for a 50 MW NITS load under IID with the following assumptions:

1. IID system wide Annual Transmission Revenue Requirement (ATRR): \$150,000,000
2. IID System Peak Load: 1,200 MW
3. Customer Peak Load: 50 MW

Results:

- . Customer Cost=ATRR× (Customer Peak/ System Peak)
- . Annual NITS Cost: $\$150,000 \times 50 / 1200 = \$6,250,000$ or $\$6,250,000 / 50 \text{ MW} = 12.5 \text{ \$/KW-yr}$
- . Monthly NITS Cost: $\$6,250,000 \div 12 = \$520,833$.

Reliability / Ancillary Service Charges (Monthly):

1. Scheduling, System Control & Dispatch: \$5,000
2. Reactive Supply & Voltage Control: \$2,500
3. Regulation & Frequency Response: \$7,500
4. Spinning Reserve: \$5,000
5. Supplemental Reserve: \$2,500

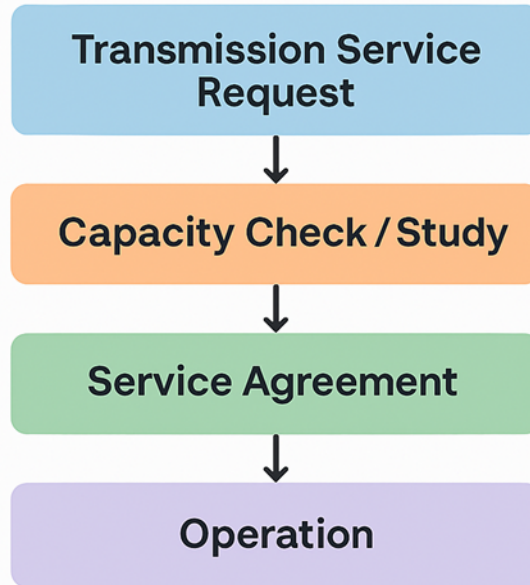
Total Monthly Ancillary Charges: \$22,500 plus Transmission Losses

Total Annual Ancillary Charges: \$270,000 plus Transmission Losses



Process:

Network Integration Transmission Service (NITS)



Step 1: Submit a NITS Load Application

Specify in the application that the new loads are seeking NITS services under Section III of the IID OATT.

Enter into discussions with IID to confirm the load's eligibility for NITS.

Follow up with each of the subsequent steps:

- (i) The Eligible Network Customer must complete an application for service as provided under Part III of the Tariff.
- (ii) The Eligible Customer and the Transmission Provider (IID) must complete the technical arrangements set forth in Sections 29.3 and 29.4.
- (iii) The Eligible Customer must execute a Service Agreement pursuant to Attachment F for service under Part III of the Tariff or formally request in writing that the Transmission Provider commence service under a proposed unexecuted Service Agreement under the specified conditions.
- (iv) The Eligible Customer must execute a Network Operating Agreement with the Transmission Provider pursuant to Attachment G.,

Step 2: Identify Load and Location



The initial step involves identifying the physical location of the new load. Simultaneously, the user must determine the hourly electrical load in megawatts (MW) and megawatt-hours (MWh) that the center will draw throughout the entire NITS period.

Step 3: Identify and Define Network Resources

Next, the user must identify the location and type of network resources intended to serve this load (e.g., solar, storage, geothermal, wind). Network loads have the flexibility to negotiate fixed rates for energy, capacity, and Renewable Portfolio Standard (RPS) requirements with multiple resource providers, leading to the creation of a comprehensive hourly supply profile. A critical requirement for these resources is the establishment of a long-term, point-to-point firm transmission right between the IID and the CAISO systems.

Resource Ownership and Requirements

Network resources can be financed, constructed, owned, and operated by any private third party or the network customers themselves. However, all resources must be physically connected to and located within the IID grid system. Resources most suitable for network customers typically meet the following criteria:

- Permitting: Possession of an approved environmental conditional use permit.
- Interconnection: Execution of a Generation Interconnection agreement with IID.
- Transmission: Executed long-term Point-to-Point (PTP) transmission agreements.
- Procurement: The ability for network customers to own the resource or enter into long-term Power Purchase Agreements (PPAs) for energy, capacity, and RPS attributes.
- Operation: Capability to finance, build, and operate the project within the required timeframe for network customers to receive supply via IID NITS.

Step 4: Compare Load and Supply Profiles

The final step involves comparing the hourly network customer load profiles against the aggregate network resource supply profile to identify any deficits or excesses:

Deficit: If the (Hourly network load – Hourly aggregate network resource) > 0, a deficit exists. The network load can purchase supplementary energy from the CAISO Markets at wholesale prices, leveraging the established point-to-point transmission tie between IID and CAISO.

Excess Supply: If the (Hourly network load – Hourly aggregate network resource) < 0, an excess of supply is available. The network load can sell this excess energy into the CAISO Markets at wholesale prices, utilizing the network resource exports PTP transmission rights. This market participation requires the involvement of a certified scheduling coordinator.

The following paragraph describes the components of a customer's total cost, which is divided into two main categories: Fixed Costs (Upfront) and Operating and Annual Costs. This cost structure is part of an arrangement where the Imperial Irrigation District (IID) manages certain services.

Customer Cost and Cost Stack Breakdown

1. The total customer cost is comprised of both fixed and operating expenses:
2. Upfront fixed costs:
3. Land acquisition, permitting, and development costs.
4. Procurement of on-site backup generators.



5. Data center design and construction (shell).
6. Costs associated with new infrastructure upgrades, including IID interconnections, network load integration, and substation costs.
7. Finance and development fees.

Operating and Annual Costs:

1. IID NTIS costs, encompassing demand charges, line losses, and ancillary services.
2. Network Resources PPA and long-term PTP transmission allocations.
3. Additional RPS costs not covered by PPAs.
4. Costs for additional generation capacity beyond what the PPA covers.
5. Market energy purchases or sales, plus associated IID and CAISO PTP transmission rates.
6. Purchasing from CAISO: Network customers pay the CAISO wholesale energy price, the CAISO transmission wheel rate to IID, and an additional IID transmission wheeling rate to the customer's site.
7. Selling to CAISO: Network customers pay the IID transmission rate and receive the CAISO wholesale energy price.
8. Scheduling Coordinator fees.
9. Data center maintenance expenditures.
10. Management fees, general finance costs, overhead, Return on Equity (ROE), and profits.

Operational Construct Summary:

Under this structure, IID is responsible for managing the NTIS and delivering energy from the specified resources to the new loads via its transmission network. All IID charges will be rate-based, mirroring the fees paid by native loads for standard transmission and reliability services. The supply side is the sole exception not under the IID rate structure; here, the PPA is based on a bilateral fixed price negotiated directly between the network resource and the network load, while market purchases are conducted.

