



SOLUTION AREA:

CONNECTED LIGHTING

USE CASE:

REMOTE SERVICE DISCONNECT & RECONNECT

Operational Intelligence Platform

Fully-Customizable, No-Code,
AI-Powered Asset & Work Management

Overview and business challenge

Electric Utilities that provide private-area, outdoor, security, or leased lighting services may need to suspend service when an account becomes delinquent and restore service once the account is brought current.

For traditional lighting assets, disconnecting and reconnecting service can require separate field visits - generating a service request or work order, dispatching a crew or contractor, physically disconnecting the light, and repeating the process when service is restored. These field activities can be costly relative to the value of the lighting service itself.

For lights equipped with Network Lighting Controllers (NLCs), the TerraGo Utility Operations Platform transforms this field-based process into a digital transaction. TerraGo can coordinate account status, business rules, authorization, remote lighting control, command confirmation, and service-status updates - eliminating the need for routine physical field visits while enabling faster restoration of service.

Business rules and operational visibility

Configurable business rules govern each transaction, including account eligibility, required approvals, user authorization, and exceptions requiring manual review. TerraGo provides authorized users with the tools to administer, approve, and review service actions, while TerraGo Analytics provides visibility into disconnect/reconnect activity, service status, operational trends, and program performance.

ADDITIONAL SERVICE OPPORTUNITY

Customer-selected dimming

The same connected-lighting infrastructure can support customer-selected dimming schedules - creating energy savings, customer choice, and new service offerings. TerraGo administers the selected profile and automatically applies the schedule.

Full output

Early evening



50% output

After 11:00 p.m.

Less energy

Reduced overnight kWh

More choice

Flexible service profiles

New service value

Potential recurring revenue

How It Works

The architecture below illustrates how TerraGo connects authorized utility users with the systems of record and connected-lighting infrastructure required to administer remote service actions.



Remote disconnect and reconnect workflow

The remote disconnect and reconnect workflow illustrates how these components work together - from identifying an account eligible for disconnect through remote shutoff, and from receipt of payment through restoration of lighting service.

1

Disconnect for Non-Payment

Automatically and securely turn off customer lighting service for delinquent accounts.

1

Delinquent Account Identified

Billing system identifies account as past due based on defined criteria.



2

Disconnect Request Sent to TerraGo

Account status and eligible assets are sent to TerraGo via integration (e.g., API).



3

Business Rules & Authorization

- Validates account eligibility
- Applies business rules and exceptions
- Enforces role-based authorization
- Prepares and issues remote OFF command

4

Remote Disconnect

TerraGo sends command to network lighting controller (NLC) to turn light off.



5

Command Confirmation

NLC confirms successful execution and returns device status to TerraGo.



6

Update Service Status

- Lighting service status updated in TerraGo and customer/billing system (e.g., SAP/CRM).
- Complete audit record stored.
- Customer can be notified (optional).



2

Reconnect After Payment

Quickly and securely restore customer lighting service once the account is brought current.

1

Payment Received

Customer account is brought current in the billing system.



2

Reconnect Request Sent to TerraGo

Account status and eligible assets are sent to TerraGo via integration (e.g., API).



3

Business Rules & Authorization

- Validates account status
- Applies business rules and exceptions
- Enforces role-based authorization
- Prepares and issues remote ON command

4

Remote Return to Service

TerraGo sends command to network lighting controller (NLC) to turn light on.



5

Command Confirmation

NLC confirms successful execution and returns device status to TerraGo.



6

Update Service Status

- Lighting service status updated in TerraGo and customer/billing system (e.g., SAP/CRM).
- Complete audit record stored.
- Customer can be notified (optional).



Customer and utility benefits

The value extends beyond simply turning a light on or off remotely. TerraGo transforms a traditionally field-based service process into an automated digital transaction, creating measurable operational, financial, and customer-service benefits.

Benefit	Potential Value
Lower cost to serve	Eliminates field visits required to physically disconnect and reconnect service, reducing crew and contractor labor, vehicle costs, fuel consumption, and work-order processing.
Greater field productivity	Allows crews and contractors to focus on outages, maintenance, repairs, and other activities that require physical field intervention.
Faster service restoration	Enables lighting service to be restored shortly after payment or authorization, without waiting for scheduling and field dispatch.
Improved customer experience	Minimizes delays between payment and restoration of lighting service and reduces the need for customers to coordinate a field visit.
Improved revenue collection	Provides a consistent and timely process for enforcing payment requirements while enabling rapid restoration of service when an account is brought current.
Reduced administrative effort	Automates the handoffs between customer/billing systems, utility operations, and connected-lighting systems, reducing manual processing and coordination.
Consistent policy execution	Applies utility-defined eligibility, authorization, approval, and exception rules consistently across disconnect and reconnect transactions.
Operational visibility & auditability	Maintains a traceable record of authorizations, commands, device responses, timestamps, exceptions, and resulting service status.
Greater value from connected lighting	Extends the value of NLC investments by using remote-control capabilities to automate a customer-service process that traditionally requires field activity.

ROI model

Remote disconnect and reconnect can provide a straightforward and measurable return on investment by replacing field-based service activities with automated digital transactions. For utilities with a meaningful population of customer-specific lighting accounts, the primary source of savings is the elimination of truck rolls associated with physically disconnecting and restoring service.

The potential financial benefit can be estimated using a small number of utility-specific inputs, including the number of connected lights, annual disconnect volume, reconnect rate, and average cost of a field service visit.

Example with 50,000 NLC-equipped customer accounts

The following example assumes 50,000 customer accounts, with one NLC-equipped light per account, enabling disconnect and reconnect actions to be performed remotely.

ROI Assumption	Example
Customer accounts with NLC-equipped lights	50,000
Accounts requiring disconnect annually	4%
Annual remote disconnects	2,000
Reconnect rate	80%
Annual remote reconnects	1,600
Average field-service cost	\$175 per visit

\$630,000

Estimated annual field-service savings

Approx. 3,600 field visits avoided annually

Avoided field activity	Annual volume	Cost per visit	Annual savings
Disconnect visits	2,000	\$175	\$350,000
Reconnect visits	1,600	\$175	\$280,000
Total	3,600		\$630,000

Additional ROI components to consider

The field-service savings shown above represent the most direct and readily measurable component of the ROI. The model can also incorporate additional financial and operational benefits where the utility has sufficient data to quantify them, including:

Administrative processing savings - Labor associated with service requests, approvals, work orders, and system updates.

Field-resource capacity - Crew hours redirected to maintenance, outages, and other field-required activities.

Accelerated billable service restoration - Revenue associated with reducing the time between payment and reconnection.

Collection improvement - Potential reduction in days outstanding or delinquent balances.

Reduced write-offs - Potential reduction in uncollectible lighting-service revenue.

These additional benefits are not included in the example ROI calculation; therefore, the \$630,000 in annual field-service savings represents a baseline rather than the total potential value of the use case.