

Transmission Register PTO Admin User Manual January 1, 2024

Prepared by: Grid Assets Version: 2.0

California Independent System Operator

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1. Introduction

The Transmission Register (TR) is a secure Web-enabled database environment for CAISO internal users and specific Participating Transmission Owners (PTO) to access TR data. The TR discloses for each transmission line and associated facility the:

- Identity of the PTO responsible for operation and maintenance, and its owners.
- Dates which the CAISO assumed or relinquished Operational Control.
- Date of any change in the identity of the PTO responsible for its operation and maintenance, or in the identity of its owner.
- Transmission equipment's applicable ratings and history.

The PTO Admin maintains and manages the Component information for their Organization within the TR. Their responsibilities and permissions include, but are not limited to:

- Creating Change Requests for Component additions and modifications.
- Defining relationships between Components (linking) as well as between Organizations (sharing).
- Viewing users, rating types, and rating notes specific to their organization.

Note: Refer to the Transmission Register CAISO & PTO General User Manual for the basic steps to navigate within TR, and to the Transmission Register Autoloader User Manual to perform bulk Change Requests.

1.1. Purpose

The TR maintains the official listing of transmission lines, associated facilities, and Entitlements that are subject to the CAISO's Operational Control, as required by the Transmission Control Agreement, Section 4.2. An individual from each organization must be designated as the PTO Admin to add, update, or delete component information to ensure the TR database has the most current information.

1.2. Scope

The PTO Admin is appointed permission to manage, modify, report, and view all Components that are maintained, owned by, or shared with their specific Organization.

1.3. Definitions

The following defined terms and acronyms are used within this document:

Object	Definition
BSCB	Bus Sectionalizing Circuit Breaker
CABLE	Cable
CAP	Shunt Capacitor
СВ	Circuit Breaker

Object	Definition
Component	A single piece or grouping of electrical transmission equipment embedded within the Grid System. Attributes that define a component include the Organization, Owner, Description, Station, Voltages, Ratings, and ISO or Non-ISO.
COND	Overhead Conductor
CSW	Circuit Switch
СТ	Current Transformer
DISC	Disconnect Switch
Dynamic	 A TR search type, which allows the User to select a value as search criteria, and the values of other search criteria are dynamically limited to only applicable values based on the selected value. If a User chooses to perform a dynamic search, the dynamic search fields are limited to the following fields, and values must be selected in the order shown as follows: Organization Station High Nominal Voltage Equipment Type
Equipment	Electrical transmission equipment category created to represent a Component, e.g. Circuit Breaker, Transformer, Leg, Transmission Line Segment, etc.
FUSE	Fuse
ISO Equipment LEG	Represents Components turned over to the ISO for their Operational Control. Typically consists of a CB, DISCs, and COND at a CB position inside a Station.
MOD	Motor Operated Disconnect Switch
Nominal Voltage	Represents the voltage class at which an Organization has decided is the utility industry-wide standard value used to classify a range of voltages it actually operates its Components by, e.g., 220 or 225 kV Operating Voltages would each fall into the 230 kV voltage class.
NULL	Empty or none
OID	Component Identification Number
Operating Voltage	Represents the voltage at which an Organization has decided to operate their Components for a specific Nominal Voltage of the Organization.
Organization	A utility entity that either performs the maintenance on and/or physically operates the Components listed under its name.
Owner	A utility entity that has an ownership percentage of or entitlements to the Components listed under its name.
PTO	Participating Transmission Owner

Object	Definition
Rating Note	An Organization specific note that provides additional rating limit
i i i i i i i i i i i i i i i i i i i	detail an operator needs to use when operating the Component.
Rating Type	All rated Components have at least four rating types that represent Summer Normal, Summer Emergency, Winter Normal, and Winter Emergency ratings, and are used to populate the Detailed Network Model (MVA1, MVA2, MVA3, and MVA4). Additional rating types may be added by the Organization that represents special emergency or planning conditions. Within each rating type is an AMP and/or MVA/MVAR value that provides the user the electrical limits a Component can be operated at or planned for while under normal or emergency conditions.
RCT	Shunt Reactor
REG	Regulator
RLY	Relay
SCAP	Series Capacitor
SCND	Synchronous Condenser
SRCT	Series Reactor
Static	A TR search type that allows the User to openly select or enter values as search criteria, and then submit all values at once.
Station Name	Organization specific Substation/Switching Station full name or a special category (Transmission Line) reserved to be the umbrella for all Organization specific transmission circuits and their associated equipment types.
SVC	Static VAR Compensator
TERM	Represents one terminus of a transmission line typically consisting of a LEG(s) and line drop CONDs.
TL	Transmission Line
TLS	Transmission Line Section
TR	Transmission Register
Transmission	All equipment and Components transferred to the ISO for
Facilities	Operational Control, pursuant to the Transmission Control Agreement, such as overhead and underground transmission lines, Stations, and associated facilities.
TRCT	Tertiary Reactor
WTRP	Wave Trap
XFMR	Transformer
XFMR BANK	Transformer Bank
XFMR BAY	Transformer Bay

2. Components Homepage

STR Transmiss	an Register	Component quick find	Q. (.,	🛞 Tash Campanella
Components 🗠	Requests \sim Admin \sim Reports			
Link components				
Find components				
Add components				
PTO entitlements				
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Figure 1 TR Homepage

Once TR is accessed, the application defaults to the screen shown in Figure 1. The following subsections provide details for navigating through each of the displayed hyperlinks.

Note: Click on the hyperlink to access the Participating Transmission Owner (PTO) Entitlements.

2.1. Find Components

For steps to Find Components, refer to section 3.2 of the Transmission Register CAISO & PTO User Manual.

2.2. Link Components

For steps to Link Components, refer to section 3.0 of the Transmission Register Component Linking Manual.

2.3. Add New Components

TR Transmission Register			c	Component quick find Q (G (R) Tos	h Campanella
Components 🖂 🛛 Requests 🕚	- Admin - Reports				
Home / Components / Add					
Change request: TBD				Originator to	ampanella
Request reason *	Precess type Opon approval	O Upon effective date	Proposed effective date	m	
Component ID: TBD			r	component without ratings 👘 🖸 Copy from component with	ratings
All fields marked with * are required					
About	Equipment		Voltages	Control	
Description *	Station *	~	High nominal voltage (kV)	V ISO control () Yes () No	
Organization *	✓ Equipment type *	~	Low nominal voltage (kV)	V ISO control start date	<u> </u>
Owners*	Q, Additional info		Tertiary nominal voltage (kV)	V ISO control end date	Ē
Cancel				Save request Subr	hit request
Cancel				Save request Subm	tit request

Figure 2 New Component Change Request Screen

A PTO Admin is responsible for notifying the Grid of any new grid assets. This is performed by either filling out a TR Change Request, or if there are numerous changes, by utilizing the TR AutoLoad tool. For steps to upload bulk changes/additions, refer to the Transmission Register AutoLoader User Manual.

In this instance, we will go through the steps to add one component at a time:

- 1) Click on the <u>Add New Components</u> hyperlink shown in Figure 1, and the screen in Figure 2 loads.
- 2) Select the appropriate Process Type radio button:
 - Upon Approval based on the basic TR Admin approval process; or
 - Upon Effective Date based on the date the component becomes operative.

me / Components / Add												
hange request: TBD											Originator: tcan	ipan
equest reason "	~	Process type O Upon approval 💿 Upon effective date	[Propo	ised e	ffecti	ive date	,]	
				<		Augu	st 202	3	>			
Component ID: TBD				54	Mo	Tu '	100 T	R	Sa	component with	out ratings 🛛 🖯 Copy from component with rat	ngs
				6	7	8	9 10	1	12			
All fields marked with * are required	1			13	н	15	16 17	18	19			
About		Equipment)	20	21	22	23 2	25	26		Control	
Description*		Station*		27	28	29	30 3	1	2		ISO control 💿 Yes 🔘 No	
Organization *	\sim	Equipment type *	~	Low no	mins	i vob	oge (k)				ISO control start date	Ē
Owners'	٩,	Additional info		Tertiar	y nor	nind	voltage	(kV)			ISO control end date	
Cancel											Save request Submit n	ques

Figure 3 Proposed Effective Date

- 3) If the Change Request is based Upon Effective Date, then either Type in the Proposed Effective Date, or Select the effective date by clicking on the date icon shown in Figure 3. Click the desired day of the month and the calendar automatically closes.
- 4) Select a Change Request Reason from the drop-down window. Refer to Table 1 for Change Request Reason explanations.

Change Request Reason (used for AutoLoad file)	Reason Explanation	Type of Change Designati on
Change Facility from/to Non ISO Facility	Change a transmission/station facility in TR that either transitioned into or out of CAISO's Operational Control.	Update, Retire
Convert Rating Unit Type	Correct a miss-entered unit type, i.e., AMPS, MVA, or MVAR.	Update
Corrected a Data Input Error	Correct an existing record in TR that contains misinformation.	Update
Facility Added (Facility Previously Existing but Not in Registry)	Add a transmission/station facility not currently logged into TR that has been and still is a part of the Grid.	Create
Facility Description Changed (Physically Unchanged)	Modify the TR component description of an existing transmission/station facility.	Update
Future Facility / Not Yet In Service	Log a transmission/station facility into TR planned for future service.	Create
Historical change, original reason unknown	Reason given to historical TR changes that did not have an identified change request reason. Historical only , this Change Request Reason is no longer available for use.	Update, Retire
New GRID Asset (Facility Previously Non-Existing Until New Construction)	Log a previously non-existent transmission/station facility into TR.	Create
Other (Causes not covered in above listing)	Use to cover any aspect not mentioned in the change request other reasons.	Create, Retire, Update
Rating Repetition (Removed emergency ratings identical to normal ratings)	Remove emergency ratings identical to the normal ratings. Historical only, this Change Request Reason is no longer available for use.	Update
Replaced Existing Equipment	Use when an existing transmission/station facility is replaced.	Update
Retired Duplicate Facility Entry	Use to correct a second entry of a transmission/station facility improperly entered.	Update
Revised Ratings (Equipment Physically Unchanged)	Log modified ratings of an existing, reevaluated transmission/station facility.	Update
Transmission Line/Facility Reconfigured (Physically Changed)	Enter reconfigurations of existing transmission/station facilities after physical modifications are installed.	Update, Retire

Table 1. Change Request Reasons

TR Transmission Register				C	Component quick find	٩	(8) Tosh Campan
omponents \lor Requests \lor	Admin \vee Reports						
me / Components / Add							
hange request: TBD						Oriç	ginator: tcampane
equest reason *	Process type O Upon appr	oval 🔘 Upon effective da	te	Proposed effective date			
Component ID: TBD				Copy from C	component without ratin	gs 🖓 Copy from compo	nent with ratings
All fields marked with * are required.							
All fields marked with * are required.	Equipment			Voltages	Cont	rol	
All fields marked with * are required. About Description *	Equipment Station*			Voltages High nominal voltage (kV)	Cont	rol	
All heads marked with " are required. About Description * Organization *	Equipment Station* Clause	туре *	~	Voltages High naminal voltage (kV) Low nominal voltage (kV)	Cont ISO c ISO c ISO c	rol ontrol Yes No control start date	
All fields marked with * are required. About Description * Organization * Owners *	Equipment Station* U Equipment Q Additional i	type " Info	~	Voltages High naminal voltage (kV) Low naminal voltage (kV) Tertiary naminal voltage (kV)	Cont ISO c ISC ISC	rol ontrol Yes No control start date	
All fields marked with * are required. About Description * Organization * Owners *	Equipment Station* Cq. Additional i	type *	~	Voltages High naminal voltage (kV) Low naminal voltage (kV) Tertiary nominal voltage (kV)	ISO c	rol ontrol Yes No control start date control end date	
All fields marked with * are required. About Description * Organization * Owners * Cancel	Equipment Station* U Equipment Q Additional i	type*	~ ~	Voltages High naminal voltage (kV) Low nominal voltage (kV) Tertiary nominal voltage (kV)	Cont ISO c ISO ISC	rol ontrol Yes No control start date control end date Sove request	E Submit reques
All fields marked with " are required. About Description * Organization * Owners * Sancel	Equipment Station* Classification Cl	type *	~	Voltages High naminal voltage (kV) Low nominal voltage (kV) Tertiary nominal voltage (kV)	Cont SO c SO c SO c SO c SO c SO c SO c	rol ontrol Yes No control start date control end date Sove request	iii Submit request

Figure 4 Change Request Screen

To save time and energy, the user can pull previously existing component information, either with or without ratings, into the Change Request screen (refer to Figure 4), or manually fill out the Change Request. To pull previously existing component information, proceed to Section 2.3.1. For steps to manually fill out the Change Request, advance to Section 2.3.2.

2.3.1. Copy Information from Existing Component

The user can choose to use preexisting component information with or without ratings:

- If components without ratings are required, click on the <u>Copy from</u> <u>Component Without Ratings</u> hyperlink and the screen in Figure 5 loads.
- If components with ratings are required, click on the <u>Copy from</u> <u>Component With Ratings</u> hyperlink and the screen in Figure 5 also loads.

				*
Station	V Equipment type	Voltage (kV)	∽Sec	rch
Results				
			o, \Xi 🔟 🖽 🗹	
ACTIONS	STATION	EQUIPMENT TYPE	DESCRIPTION :	
۲	[TRANSMISSION LINE]	TL	101 (NORTH TRUCKEE-CALIFORNIA SUB)	
۲	[TRANSMISSION LINE]	TL	102 (CALIFORNIA SUB-SUMMIT METER STA)	
۲	[TRANSMISSION LINE]	TL	106 (CALIFORNIA SUB-MT ROSE)	
۲	[TRANSMISSION LINE]	TL	114 (CALIFORNIA SUB-NORTHWEST SUB)	
۲	[TRANSMISSION LINE]	TL	133 (NORTH TRUCKEE-SUMMIT METER STA)	
۲	[TRANSMISSION LINE]	TL	13801 (Cannon – Encina)	
۲	[TRANSMISSION LINE]	TL	13804 (Penasquitos - Encina - Batiquitos)	
۲	[TRANSMISSION LINE]	TL	13805 (Batiquitos - Palomar Airport)	
۲	[TRANSMISSION LINE]	TL	13806 (Encina - Palomar Airport)	
۲	[TRANSMISSION LINE]	TL	13809 (Proctor Valley - Telegraph Canyon)	
			Rows per page 10 \checkmark 1-10 of 2308 (\leftarrow \rightarrow \rightarrow	

Figure 5 Component Search Screen

One or all of the choices can be selected, but to narrow the search, we will select all of the options:

- 3) Select a station from the dropdown window.
- 4) Select a voltage (kV) from the dropdown window
- 5) Select the Equipment Type from the dropdown window (refer to Section 1.3. for the definitions of the equipment short names).
- 6) Press the Run Search button and the window loads with rating information, as shown in Figure 5.
- 7) Select one of the station results and the choice highlights.
- 8) Press the OK button.
- 9) If no ratings were selected, then the screen in Figure 6 loads.
- 10) If ratings were selected, then the screen in Figure 7 loads.

mponents ~	Requests 🗸 Admin	Reports			
quest reason *		Process type Upon opproval Upon offective date	Proposed effective date	<u>10</u>	
Component ID:	TBD		Copy from	component without ratings 🖉 Copy from com	ponent with ratings
All fields marked with About	* are required.	Equipment	Voltages	Control	
Description 1 13801 (Connon - En	vinal	(TRANSWISSION LINE)	V High nominal voltage (KV) *	SC control 🛞 Yas 🔘 No	
Original analysis		 Response (gpe*) 	✓ Low nominal voltage (kV)	V 12/18/1997	
Owners*		Additional info	Tertiary nominal voltage (kV)	ISO control end date	
Ratings					
Apply to all					
RATING TYPE	AMPRATING	MVA RATING" MVAR HIGH MVAR	LOW DURATION	NOTES	
CE (A)					0
WN (B)					6
WE (C)		1 & 4 hour ra	tings reduced to match PLUD		9
D			Con O Q		9



mponents	Reque	sts 🗸 🛛 Admi	n 🗸 🛛 Reports							
equest reason "						Proposed effective date				
Compor	nent ID: TBD					Copy from	component without ro	tings 📋 Copy from con	nponent with ratings	
All fields m About	arked with " are rea	juired.	Equipment		`	/oltages		Control		
Descriptio	n'		Station*		~	High nominal voltage (230	W) •	ISO control 💿 Yes C) No	
- Orgonizot	ion '	\sim	Squpment type '		~	Low nominal voltage	e (kW) * 🗸 🗸	12/12/2002		
Owners*		Q,	Additional info 1& 4 hour rating	s reduced to matcl	h PO&I	Tertiary nominal volta (13.2)	ye (kiv)	ISO control end date		
Ratings										
Apply 1 SELECT	o of RATING TYPE	AMP RATING	MVA RATING'	MVAR HIGH	MVAR LOV	V DURATION		N	OTES	
0	SN (N)	0	420	0	0	⊙ Con O	0		٩,	
0	SE (A)	0	462	0	0	🔿 Con 🍥	4		٩	
0	WN (B)	0	420	0	0	Con O	0		0,	

Figure 7 Copied Component Information with Ratings

Transmission Register		Component quick tind Q (G (8) Tosh C	Campane
mponents \vee Requests	Admin Reports		
me / Components / Add			
nange request: TBD)	Originator: tca	mpanel
equest reason *	 ✓ ✓ O Upon approval O Upon effective date 	Proposed effective date	
Component ID: TBD		Copy from component without rations ID Copy from component with ra	itings
		E oop) tott component minoartanige E oop) tott component minta	
All fields marked with * are require	sd.	G. oob) unuronibaran minori ninga - G. oob) unuronibaran mino	
All fields marked with * are require	ed. Equipment	Voltages Control	-
All fields marked with * are require About Description *	ed. Equipment Station *	Voltages Control Veltage (kV)* ISO control () Yes () No	
All fields marked with * are require About Description * Organization *	ed. Equipment Station * Equipment type *	Voltages Control V High nominal voltage (kV)* ISO control () Yes () No Low nominal voltage (kV)* ISO control start date	
All fields marked with * are require About Description * Organization * AEP	ed. Equipment Station * Equipment type * Additional info	Voltages Control Village (kV)* ISO control () Yes () No Low nominal voltage (kV)* ISO control start date Tertiary nominal voltage (kV) ISO control end date	
All fields marked with * are require About Description * Criganization * AEP ANHM	ed. Equipment Station* Equipment type* Additional info	Voltages Control Village (kV)* ISO control () Yes () No Low nominal voltage (kV)* ISO control start date Tertiary nominal voltage (kV) ISO control end date	
All fields marked with * ore require About Description * Organization * AEP ANHM APS	ed. Equipment Station* Equipment type* Additional info	Voltages Control Village (kV)* ISO control () Yes () No Low nominal voltage (kV)* ISO control start date Tertiary nominal voltage (kV) ISO control end date	
All fields marked with * ore require About Description * Organization * AEP ANHM APS BANC	ed. Equipment Station* Equipment type* Additional info	Voltages Control High nominal voltage (kV)* ISO control () Yes () No Low nominal voltage (kV)* ISO control start date Tertiary nominal voltage (kV) ISO control end date Sove request Submit: 	Tequest
All fields marked with * ore require About Description * Organization * AEP ANHM APS BANC BPA	ed. Equipment Station* Equipment type* Additional info	Voltages Control Village (kV)* ISO control () Yes () No Low nominal voltage (kV)* ISO control start date Tertiary nominal voltage (kV) ISO control end date	roquest
All fields marked with * ore require About Description * Organization * AEP ANHM APS BANC BPA CCSF	ed Equipment Station* Equipment type* Additional info	Voltages Control Vision ISO control () Yes () No Iso control start date ISO control start date Tertiary nominal voltage (kV) * ISO control end date Sove request Submit	Troquest

2.3.2. Manually Enter Change Request

Figure 8 Change Request Screen

- 1) Select the Organization from the dropdown window and the screen automatically refreshes with that organization's information.
- 2) Select the Owners from by clicking the magnifying glass and a window listing all organizations adjacent to a checkbox loads (refer to Figure 8).
- 3) Click the desired checkbox and press the OK button and it refreshes.
- 4) Select the station.
- 5) Select the Equipment Type and the screen refreshes with the specifics for that equipment.
- 6) Type in the Description of the equipment. This is free-text, which can include up to ninety-six (96) characters.
- 7) Select the High Nominal Voltage (kV).
- 8) If the Low Nominal Voltage (kV) is highlighted, then select the correct voltage and it must be less than High Nominal Voltage.
- 9) If the Tertiary Nominal Voltage is highlighted, then the voltage may be added and it must be less than the Low Nominal Voltage.
- 10) Select the Yes or No radio button to designate if under ISO Control (defaults to Yes).
- 11) Type in, if needed, the ISO Control Start Date, or select by clicking on the date icon and a calendar displays (shown in Figure 9). Click the desired day of the month and the calendar automatically closes.

Transmission Register		Component quick find	G. (G. (B) Tosh Campanella
Components \lor Requests \lor Admir	n 🗸 Reports		
Home / Components / Add Change request: TBD	Brown here		Originator: tcampanella
Convert Roting Unit Type	Upon approval	Proposed effective date	gs (_ Copy from component with ratings
All fields marked with * are required. About	Equipment	Voltages	Control
Description *	Station*	High nominal voltage (kV) *	ISO control () Yes () No
Organization*	Equipment type*	Low nominal voltage (kV) * $\qquad \checkmark$	ISO control start date
Correct	Additional info	Tertiary nominal voltage (kV) V	August 2023 J J Su Mo Tu Wo Th Fr St Image: State Sta
© 2023 California Independent System Operator. All rights	s reserved.		10.0-61

Figure 9 Calendar Icon

- 12) Select, if needed, the ISO Control End Date in the same manner.
- 13) Type in any Additional Info using optional free-text, which can include up to 256 characters.
- 14) Press the Save button.
- 15) Press the Submit button and the screen in Figure 10 loads. The TR Admin then reviews and notifies the PTO Admin of approval or rejection of the Change Request via an email.

Components Requests Nome Requests Nome Request reacio Component ID Process type Request reacio Process type Request reacio Process type Request reacio Process type Request reacio Process type Request reacio Process type Request reacio Request reacio Request reacio Request reacio <th>Iransmission</th> <th>Register</th> <th></th> <th>Component quick find</th> <th>9. (G. (S) Tosh Campanella</th>	Iransmission	Register		Component quick find	9. (G. (S) Tosh Campanella
Hourset / Requests / ProdChargeRequests Change requests	Components	Requests ~ Admin ~ Reports			
Change request: WORK IN PROCREES Originator: Last modified by NA Change type Request reason Process type Process effective date Change facility from the Not ISO Facility Upon Approval Process effective date Component ID:	Home / Requests / Fin	dChangeRequests			
Charge type Request reasion Process type Process filed two date Component ID Image: Ima	Change reque	ST: WORK IN PROGRESS		Originator:	Last modified by: N/A
Component ID: Proposed About Description Organization Organization Organization Stanson Equipment Stational (rhg Validational (rhg Validational (rhg Ingin nonned validage 8V/ 24 tox rommed values 8V/	Change type Create	Request reason Change Facility from/to Non ISO Facility	Process type Upon Approval	Process effective date	
Proposed About Description Organization Organization Owners: Equipment Station (TRANSMSSION LME) Equipment Type: Buds Additional info Valtage High nominal valtage (kV): 2.4 Law nominal valtage (kV): 2.4	Component ID:				
About Description Organization Organization Owners: Equipment Station Equipment Type BUS Additional info Valtage High nominal valtage (kV) 2.4 Lear nominal valtage (kV) 2.4	Proposed				
Desrgmon Organization Owners:	About				
Organization Owners: Equipment Station (TRANSMSSONLME) Equipment rype: Additional refo Varlage High nominal varlage (AV) 2.4 Lew zomanal varlage (AV) 2.4	Description				
Conners: Equipment Sation (TRAKSMSDON LNE) Equipment type BUS Additional refe Equipment type V Additional refe Equipment type V Additional refer V Equipment type V	Organization				
Equipment Sation (TRANSMSSON LNE) Equipment type BUS Additional infe type type type type type type type ty	Owners				
Station (TRAKSMSSONLIKE) Equipment type: BUS Additional refe Valtage High nominal valtage (W) 2.4 Leve zemanal valtage (W) 2.4					
Equipment type: BUS Additional info Valtage High nominal valtage (AV) 2.4 Leve zemenal valtage (BV)	Equipment				
Additional Info Voltage High nominal voltage (KV) 2.4 Leve nominal voltage (KY)	Equipment Station	[TRANSMISSION LINE]			
Voltage High nominal valtage (kV) 2.4 Low nominal valtage (kV)	Equipment Station Equipment type	(TRANSMISSION LINE) BUS			
High nominal valtage (KV) 2.4 Low nominal valtage (KY)	Equipment Station Equipment type Additional info	(TRANSMISSION LINE) BUS			
Low rominal voltage (kV)	Equipment Station Equipment type Additional info Voltage	ITRANSMISSION LINE] BUS			
	Equipment Station Equipment type Additional info Voltage High nominal voltage	(TRANSMISSION LINE) BUS 1640 2.4			

Figure 10 Change Request Work In Progress

3. Requests Page

TR Transmissi	on Register		Component quick find	0,	💪 🛞 Tosh Campanella
Components \vee	Requests \land Admin \lor	Reports			
Components V Home / Home Home Page	Requests A Admin Admin Admin Admin Admin Admin Admin Administration and Autoload change requests history Find component share requests Find change requests	Reports			
© 2023 California Indeper	ident System Operator. All rights reserv	ed.			1.0.0-61

Figure 11 Request Page

Select the Requests folder tab and the Requests page (shown in Figure 11) offers the PTO Admin the ability to perform the following:

- Find Change Requests- Search and view pending Change Requests for new and existing components.
- Find Component Share Requests- Find a component that is shared by another Organization.
- AutoLoad Change Requests- Uploads bulk Change Requests into TR.
- AutoLoad Change Requests History- View all the Change Requests pending approval.

The subsequent subsections offer steps to complete the each of the above mentioned tasks on the Requests page.

3.1. Find Change Requests

Components V Requests V	Admin \vee	Reports				
fome / Requests / FindChangeRequests						
Find change reques	ts					
llows the user the ability to search an	nd view pend	ing Change Requests for both new	and existing components			
Reason	~	Organization	✓ Originator		~	Run search
Status Pending Approval	~	Date Created	∼ Date App	roved	~	\bigcirc Reset all filters
Component ID	~	High Nominal Voltage (kV)	✓ Equipment	т Туре	\sim	
Station	\sim	Under ISO Control	 ✓ Request S 	ource	\sim	
Results						

Figure 12 Find Change Request Page

Under the Find Change Requests topic, the user can search for Change Requests on new or existing components using either specific criteria or by general category type. For example, if we choose the Reason as Transmission Line/Facility Reconfigured (Physically Changed), and then select the Status Approved, we get back six pages of approved Change Requests that pertain the that reason type.

However, for guidance purposes, we will proceed step-by-step as if all the criteria is identified:

Reminder: The parameter for all search options automatically defaults to Equal to.

- 16) Click the <u>Find Change Requests</u> hyperlink shown in Figure 11 and the screen in Figure 12 loads.
- 17) Select the following criterion from the dropdown windows.
 - Reason
 - Organization
 - Originator
 - Status Defaults to "Pending Approval".
- 18) Type in the Date Created, or press the calendar icon and select a date. Once the date is selected the window automatically closes.
- 19) Select the appropriate Date Created parameter if different than "Equal to".
- 20) Type in the Date Approved, or press the calendar icon and select a date.
- 21) Select the appropriate Date Approved parameter if different than "Equal to".
- 22) Type in the Component ID. If only a partial number is available, you can select the parameter of either "Contains" or "Starts with".
- 23) Select the High Nominal Voltage (kV) and the associated parameter.
- 24) Select the Equipment Type.
- 25) Select the Station name.

- 26) Choose either Yes or No as to whether the component is Under ISO Control.27) Select AUTOLOAD as the Request Source, which outputs below the Search
 - Results at the bottom of the page.

Type of					Station	Component	Compone			Tertiary		ISO		Additional	Line	Rating	High	Low	_	
Change	Change Request Reason	OID	Org	Owner	Name	Description	nt Type	High KV	Low KV	KV	Length	Control	Units	Information	Number	Type	Rating	Rating	Duration	Note #
	New GRID Asset (Facility																			
	Previously non-Existing																			
create	Until New Construction)		PLUD	PLUD	AMADOR	BSCB 1	BSCB	230				Y	AMPS							
	Revised Ratings																			
	(Equipment Physically																			
update	Unchanged)	95668	PLUD	PLUD	AMADOR	NORTH	BUS	70				Y	AMPS			WE (C)	2900		C	
	Other (Causes not																			
retire	covered in above listing)	95669	PLUD	PLUD	AMADOR	SOUTH	BUS	69				Y	AMPS							
	New GRID Asset (Facility Previously non-Existing																			
create	Until New Construction)		PLUD	PLUD	AMADOR	NEW 1	FUSE	69				Y	AMPS							

Figure 13 Search Results

E	∃ 5 •	c ^a - 💡									rExport_0808	2023_10242	2 - Excel								•		ø
	le H	ome	Insert	Pag	e Layout	Formulas	Data	Review	View	Developer	Micro Fe	ocus ALM U	pload Add-i	n A	Acrobat		Tell me wha				Strous	e, Nancy	A Shar
	A	В		С	D	E	F	G	н	1	J	К	L	M	16	N	0	P	Q	R	S	T	l
1	createdD	lupdate	dD cre	eatedBy	updatedB	updatedB	createdBy	deletedB	recordSta	type	process	statusID	reasonID	reason	n so	ource	approve	rlapprove	ert modifie	dEoriginato	r compon	erappro	vert effec
2	******	*****	##	214	4				Active	UPDATE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Robin Ma	[object (Object]	
3	*****	*****	##	121	4				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Harold To	object (Object]	
4	******	*****	##	214	4				Active	UPDATE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Robin Ma	[object (Object]	
5	*****	******	##	121	4				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Harold To	o [object (Object]	
6	*****	######	##	121	4				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Harold To	object (Object]	
7	*****	*****	##	121	4				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Harold To	o [object 0	Object]	
8	******	*****	##	121	3				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		3 Steve R	ut Steve Ru	t Harold To	o [object (Object]	
9	*****	*****	##	121	4				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Harold To	o [object (Object]	
10	******	******	##	2	3				Active	UPDATE	APPROVA	3	13	Transr	miss W	EB		3 Steve R	ut Steve Ru	IT MIGRATIO	[object 0	Object]	
11	*****	******	###	214	4				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	Ifc Tom Hal	fc Robin Ma	[object (Object]	
12	*****	*****	##	214	3				Active	UPDATE	APPROVA	3	13	Transr	miss W	EB		3 Steve R	ut Steve Ru	t Robin Ma	[object (Object]	
13	*****	******	##	121	3				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		3 Steve R	ut Steve Ru	t Harold To	object (Object]	
14	*****	*****	##	121	3				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		3 Steve R	ut Steve Ru	t Harold To	o [object (Object]	
15		*****	##	121	3				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		3 Steve R	ut Steve Ru	t Harold To	o [object (Object]	
16		*****	##	121	3				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		3 Steve R	ut Steve Ru	t Harold To	o [object (Object]	
17	*****		##	121	3				Active	RETIRE	APPROVA	3	13	Transr	miss W	EB		3 Steve R	ut Steve Ru	t Harold To	object (Object]	
18	*****	*****	##	4	4				Active	UPDATE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Tom Half	c [object (Object]	
19	*****		##	214	4				Active	UPDATE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	Ifc Tom Hal	fc Robin Ma	[object (Object]	
20	*****	*****	##	4	4				Active	UPDATE	APPROVA	3	13	Transr	miss W	EB		4 Tom Hal	Ifc Tom Hal	fc Tom Half	c [object (Object]	
21	*****	******	##	214	4				Active	UPDATE	APPROVA	3	13	Trans	miss W	EB		4 Tom Hal	lfc Tom Hal	fc Robin Ma	[object (Object]	
22																							
23																							
24																							
25																							
26																							

Figure 14 Sample Excel .csv Format

The user can export to a .csv format by clicking the <u>CSV Export</u> hyperlink shown in Figure 12 and the spreadsheet in Figure 13 generates.

To view the details of one line of the Search Results, click the <u>Details View</u> hyperlink and the Change Request loads. Press the Close button when complete.

TR Transmissio	on Register		Component quick find Q (G Tosh Componella
+Components ~	Requests \lor Admin \lor Reports		
Home / Requests / F	indChangeRequests		
Change requ	est: Approved		Originator: MIGRATION Last modified by: N/A
Change type	Request reason	Process type	Process effective date
Modify	Historical change, original reason unknown	Upon Approval	
Approver MIGRATION	Approver no	tes	
Component ID			
Current		Proposed	
About		About	
Description	13801 (Cannon - Encina)	Description	13801
Organization		Organization	
Owners		Owners	
Equipment		Equipment	
Station	[TRANSMISSION LINE]	Station	[TRANSMISSION LINE]
Equipment type	TL	Equipment type	e TL
Additional info		Additional info	
Voltage		Voltage	
Close			
Low nominal voltas	ae (kV)	Low nominal vo	oltage (kV)

Figure 15 Details View Window

3.2. Find Share Components

amponents Reguests Admin Reports are / Requests / FridComponentShareRequests amper / Requests / FridComponentShareRequests area / ar	TR Transmission Re	gister	Component quick find Q, (L. (R) Tosh Campanella
me / Request / FindComponentShareRequest Component be Co	Components 🗸 Rec	quests \vee Admin \vee Reports	
Approver Approver Approver notes arged rigenization BAE Shore type View And Link Approver notes Component ID: View And Link Approver MOWAY-VINCENT NOI Orgeners MOWAY-VINCENT NOI Orgeners MOWAY-VINCENT NOI Orgeners MOWAY-VINCENT NOI Orgeners Factor Equipment ITRANSISSION LINE Equipment Type It Additional Info 1 Viewand Link 1 Additional Info 1 Viewand Link 1 Equipment Type 0 Gott 1 Component UD: Equipment Type Equipment Type 0 Equipment Ty	iome / Requests / FindCo	omponentShareRequests	
appropriate Approve notes ared organization BAE Shore type Vew And Link Component ID: Vew And Link About MIDWAY-VINCENT NO.1 Organization MIDWAY-VINCENT NO.1 Station TEANSING LINE Equipment Type TEANSING LINE Equipment Type TEANSING LINE Additional Info TEANSING LINE Equipment Type TEANSING	Share request		Originator: Steven Spikes Last modified by: Tom Halford on 02/21/2012 08:32 AM
and organization Share type Share type Wew And Link View A	hange type Ap	prover	Approver notes
Ale wand Link Vew And Link Vew And Link Component ID About Description MIDWAY-VINCENT NO.1 Organization Overars Equipment Station ITRANSMISSION LINE Equipment Equipment Type TL Additional info Voltage High nominal voltage (kV) 16 Cos	hared organization	Share tune	
Component ID: About Description MDWAY-VINCENT NO.1 Organization	GAE	View And Link	
About Description MIDWAY-VINCENT NO.1 Organization	Component ID:		
Description MIDWAY-VINCENT NO.1 Organization	About		
Organization Owners Equipment Station ITRAINSISSION LINE) Equipment Type Additional info Voltage High nominal voltage (KV) Idea Cose	Description	MIDWAY-VINCENT NO.1	
Owners Equipment Stotion ITRANSMISSION LINE) Equipment Type TL Additional info Voltage High nominol voltage (kv) Is Cose Decline request	Organization		
Equipment Stonon [TRANSMISSION LINE] Equipment Type TL Additional info	Owners		
Stotion [TRANSMISSION LINE] Equipment Type TL Additional info	Equipment		
Equipment Type TL Additional Info Voltage High nominal voltage (V/) [6] Cose Decline request Approve request	Station	[TRANSMISSION LINE]	
Additional info Voltage High nominal voltage (k/) 161 Cose Decline request Approve request	Equipment Type	τι	
Voltage High nominal voltage (k/) [6] Cose Decline request Approve request	Additional info		
High nominal voltage (k/) 161 Televential Laboration 161 Close Decline request Approve request	Voltage		
Close Decline request Approve request	High nominal voltage (k\	/) 161	
Close Decline request Approve request	l ou nominal veltano flùt	0	
	Close		Decline request Approve request

Figure 16 Find Share Requests

The Find Share Requests page permits the user to search and view requests submitted by different organizations that share their component and related equipment ratings information. One or all the criterion can be selected, but for training purposes, we will select all.

Take the following steps to Find Share Components:

Reminder: The parameter for all search options automatically defaults to Equal to.

- 1) Click the Find Share Requests hyperlink.
- 2) Select the Organization.
- 3) Select the Originator.
- 4) Select the Status.
- 5) Press the Run Search button and the screen in Figure 17 loads.

Transmission Register		Component quick find Q (5 Tosh Camponella
Components \lor Requests \lor Admi	n \vee Reports	
Home / Requests / FindComponentShareReques	ts	
Share request: PENDING APPRO	DVAL	Originator: Nalini Chari Last modified by: Nalini Chari on 08/21/2023 1E49 AM
Change type Approval Create () Approve () Decline	***	Approver notes Apprever notes Notes[go here
Shared organization PGAE	Share type View And Link	
Component ID:		
About		
Description LAKE-POCKET	(SMUD)	
Orgonization		
Owners		
Equipment		
Station [TRANSMISSIO	N LINE]	
Equipment Type TL		
Additional info		
Voltage		
High nominal voltage (kV)		
Cancel		Submit request

Figure 17 Find Share Requests Results

The PTO Admin may now modify the share permissions for their organization:

- 1) Click the <u>Detail View</u> hyperlink and the window shown in Figure 17 loads.
- If the share needs to be removed, click the <u>Remove Share</u> hyperlink shown in Figure 17. The screen refreshes and now includes a <u>Cancel Request</u> hyperlink at the top of the page to cancel the change.
- 3) If the share needs to be modified, click the <u>Modify Share</u> hyperlink and the screen shown in Figure 18 loads.

Transmission Regis	ter		Component quic	k find	٩, ৬	(8) Tosh Campanella
Components V Reque	ists \vee Admin \vee Reports					
Home / Requests / FindComp	ponentShareRequests					
Share request:	PENDING APPROVAL		Originator: Nalini Chari	Last modified by: N	Valini Chari on O	8/21/2023 11:49 AM
Change type Appro Create a cró	over	Approver notes				
Shared organization	Share type O View Only View And Link					
Component ID:						
About		0				
Description						
Organization						
Owners						
Equipment						
Station	[TRANSMISSION LINE]					
Equipment Type	TL					
Additional info						
Voltage						
High nominal voltage (kV)						
Cancel					Save request	Submit request

Figure 18 Share Requests Page

TR Transmission	Register		Component quic	ik find 9, (G (8) Tosh Campo
Components 🗸 🛛 🖡	lequests \lor Admin \lor Reports			
Home / Requests / Find	ComponentShareRequests			
Share request:	PENDING APPROVAL		Originator: Nalini Chari	Last modified by: Nalini Chari on 08/21/2023 11:49
Change type	Approver	Approver notes		
Create	a cró			
Shared organization Shared organization	Share type	ew And Link		
Component ID:				
About		0		
Description				
Organization				
Owners				
Equipment				
Station	[TRANSMISSION LINE]			
Equipment Type	TL.			
Additional info				
Voltage				
High nominal voltage	(kV)			



The modification on this page changes the Share Type from View Only to View And Link.

- 1) Click the View And Link radio button.
- 2) Press the Save button.
- 3) Press the Submit or Cancel button.

3.3. AutoLoad Change Requests and AutoLoad Change Requests History

The AutoLoad Change Requests page allows the ISO and PTO Admin the ability to upload Change Requests in batch format. For steps to perform this, refer to the Transmission Register AutoLoader User Manual.

The AutoLoad Change Requests History page allows the TR Admin the ability to view AutoLoad Change Request History and download file errors. For steps to use this feature together with the AutoLoader application, refer to Section 3.4 of the Transmission Register AutoLoader User Manual.

Both of these tools are accessed from the Requests page under the AutoLoad Change Requests and AutoLoad Change Requests History shown in Figure 11.

4. Admin Screen

C 🖓 🔂 tttps://maptest-	A* 12) OP 12= Ge % 🚳 … 🕩	
Transmission Register		Component quick find Q (G Rancy Strause - Aug 8. 2023
Components \lor Requests \lor	Admin 🔿 Reports	
Home / Home Home Page	Users Organizations Naminal Voltages Equipment Types Change Request Reasons Stations Rating Types Rating Notes Roles And Permissions	

Figure 20 Admin Screen

The PTO Administrators can view organization-specific users, and proprietary rating types and rating notes, along with their IDs. By selecting the Admin folder tab, the screen in Figure 20 appears. The following subsections offer steps to view Users, Rating Types, and Rating Notes.

4.1. Users

Transmission Register			Component qu	uick find	Aug 8, 2023	
Components V Requests V Admin V Reports						
Home / Admin / Users						
Users					+ Add Users	
Add to or modify User	information in the Transmissio	on Register.				
Q Search	×				= 	
USER ID	LOGON ID		EMAIL 🕂	LAST LOGON	STATUS +1+ 1	
USER ID +++ :	LOGON ID +[+ ; xrgarcillano	ORGANIZATION +++ : Pacific Gas & Electric	EMAIL 🕀 E	LAST LOGON + 1 : 05/24/2012 05:55 PM	STATUS	
USER ID <u>210</u> <u>211</u>	LOGON ID + + + + + + + + + + + + + + + + + +	ORGANIZATION + : Pacific Gas & Electric California ISO	EMAIL 12 : noreply@caiso.com noreply@caiso.com	LAST LOGON	STATUS 🕂 : Active Inoctive	
USER ID + : 210 211 212	LOGON ID +++ + + xrgarcillano reristillo rsparks	ORGANIZATION + i i Pacific Gas & Electric California ISO California ISO	EMAIL + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +	LAST LOGON +1 :	STATUS + + + + + + + + + + + + + + + + + + +	
USER ID + + + + + + + + + + + + + + + + + +	LOGON ID +++ 1 xrgarcillano rcristillo rsparks rvalenzuela	ORGANIZATION +	EMAIL + i i noreply@caiso.com noreply@caiso.com noreply@caiso.com noreply@caiso.com	LAST LOGON + 1	STATUS : : Active Inactive Active Inactive Inactive	
USER ID + + + + + + + + + + + + + + + + + +	LOGON ID ++ 1 xrgarcillano rcristillo rsparks rvalenzuela xrmanuguid	ORGANIZATION +	EMAIL +++ : noreply@caiso.com noreply@caiso.com noreply@caiso.com noreply@caiso.com	LAST LOGON + i 05/24/2012 05:55 PM 02/01/2023 10:10 AM	STATUS Active Concernent Concern	

Figure 21 Users Screen

- 1) Click on the <u>Users</u> hyperlink shown in Figure 20 and the screen in Figure 21 loads.
- 2) Click on either the <u>View User</u> or User ID hyperlink to view details of a particular individual's permission status and role.

4.2. Rating Types

TR Transmission Re	egister		C	component quick find Q (G Nancy Strouse - Aug 8, 2023
Components ~ Re	quests \vee 🛛 Admin	∼ Reports		
Home / Admin / Ratingty	pes			
Rating Types	S			+ Add Rating Types
Add to or modify Rating	Types in the Transmis	ssion Register.		
9 Search	\times			T
RATING TYPE ID	STATUS 🕀	SHORT NAME	FULL NAME	DESCRIPTION $+\frac{1}{2}$
1	Active	SN (N)	Summer Normal	Summer Normal (April - October). Summer loading limit under typical norm
-	Active	SE (A)	Summer Emergency	Summer Emergency (April - October) Summer emergency loading limit. Will
2				
<u>-</u> <u>113</u>	 Active 	test-mo	TR_testing_mod	modified-description provided by the user
<u>-</u> <u>113</u> <u>3</u>	Active Active	test-mo WN (B)	TR_testing_mod Winter Normal	modified-description provided by the user Winter Normal (November - March): Winter loading limit under typical norma

Figure 22 Rating Types Screen

Rating Types are an organization's standard description of an industry common operating condition that an electrical component would be subjected to when in an energized state (e.g. Winter Normal, Summer Normal).

- 1) Click on the <u>Rating Types</u> hyperlink shown in Figure 19 and the screen in Figure 21 loads.
- 2) Click the <u>View Rating Type</u> or Rating Type ID hyperlink to view the details of a rating type, and the example shown in Figure 22 loads.

l	
Short Name SN (N)	
- Full Name Summer Normal	
Description	October): SL
- Sort Priority (Major)	
Sort Priority (Minor)	
Active	• •
Active	• •

Figure 23 Rating Type Details

4.3. Rating Notes

TR Transn	nission Register			Componen	t quick find	8 Nancy Strouse - Aug 8, 2023
components V Requests V Admin V Reports						
Home / Admin	/ Ratingnotes					
Rating N	lotes					+ Add Rating Notes
Add to or modi	fy Rating Notes in the Transm	ission Register.				
Q Search	×					Ŧ
ID + ++++ :	ORGANIZATION	STATUS	ASSOCIATED COMPONENT \leftrightarrow : COUNT	NOTE ID $\stackrel{+}{\rightarrow}$	NOTE +	
39	Pacific Gas & Electric	Active	8	1	1. Emergency rating for dual N-1 and G	-1 condition in San Francisco.
228	Westerm Area Sierra Nevada	Active	0	1	1. Limited by COND	
210	Trans Bay Cable Operations	Active	9	1	1. Maximum Possible Current = 1170A (AC)
62	San Diego Gas & Electric	Active	12	n	1. See nomograms and/or 'MATA' table	es for operating limits. MVA rating b
10	Destite Care & Electric	Activo	4	10	10 MV/As High sumbers are conscitute	

Figure 24 Rating Notes Screen

Rating Notes are an organization's detailed operating constraint that is in addition to or reaffirms an electrical component's Rating Type information. The note typically informs the operator what additional constraint has been applied to the Rating Type (e.g. Limited by Ground Clearance, Limited by Disconnect).

1) Click on the <u>Rating Notes</u> hyperlink and the screen in Figure 24 loads. Click on the ID hyperlink to view details of a specific rating note.

Update data	X
D	Î
228	
– Organization	
WASN	· •
Associated Component	Count
Note ID	
- Note	
1. Limited by COND	
Status	
Active	· ·
Cancel	Save

Figure 25 Rating Note Details

5. Reporting Screen

Refer to the Transmission Register CAISO & PTO General User Manual for a description of all available reports, as well as, steps to generate a report.

6. Revision History

Version	Activity	By	Date
1.0	Draft	Marilyn Lien	5/1/07
2.0	Updated ISO Logo and format	Chris Hillman	10/22/2021
3.0	Updated screenshots and text for UI	N. Strouse	1/1/2024
	updates. Updated formatting.		