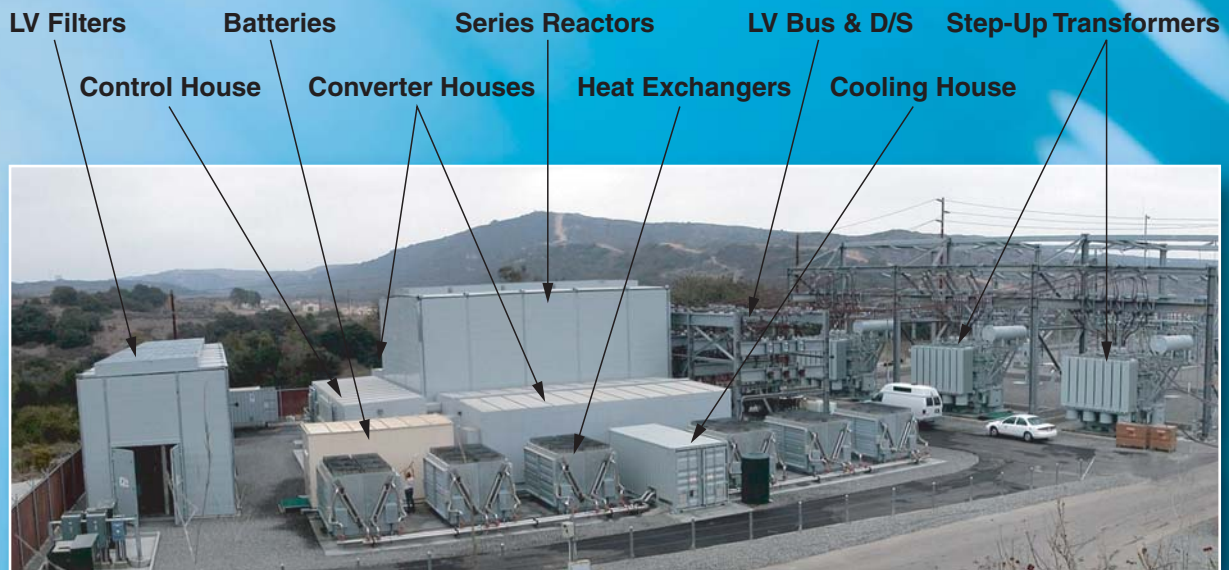


SDG&E Talega STATCOM/BTB FACTS Project



Project Highlights

- **Ratings**
 - 100 to +100 Mvar (STATCOM)
 - 50 MW BTB DC-Link (future option)
 - 138 kV-ac
- **VSC Based Design**
 - Voltage Sourced Converters with Gate Commutated Turn-Off Thyristor (GCT) Elements
- **Auto-Reconfiguration Feature**
 - Control and Reliability Enhancement during Contingency Operation
- **Low Noise / Small Footprint**
 - Strict Environmental Requirements
 - Modular Equipment Construction
- **Commissioned**
 - February 2003

SDG&E Talega STATCOM / BTB FACTS Project



Photos:

Front page; External View of the Talega S/S STATCOM / BTB System

Left top; External View of the GCT-Based Converter Control Mimic Board

Left Bottom; Single-Line Diagram of the Talega -100/+100 Mvar, 138 kV STATCOM / BTB System

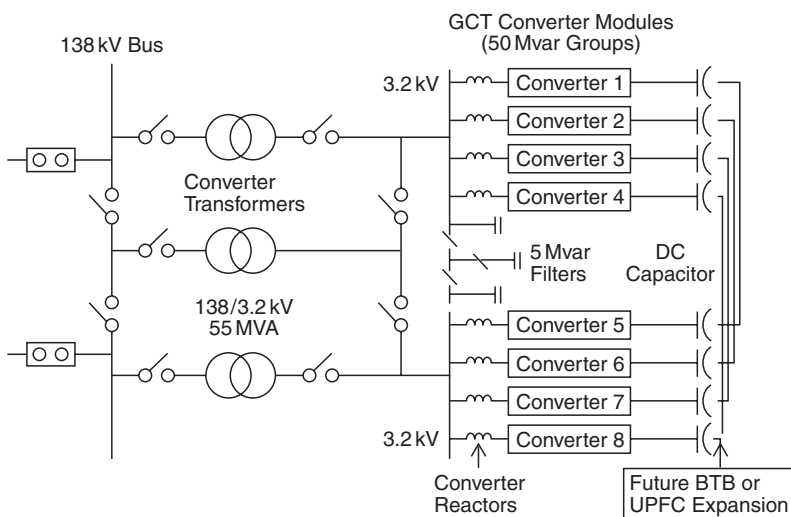
The FACTS installed in the SDG&E system at the Talega 138kV substation is being applied to relieve transmission system constraints in the area through dynamic var control during peak load conditions. It is operating as a STATCOM with a rated dynamic reactive capacity of $-/+100$ Mvar.

The main objectives of the Talega STATCOM are as follows:

- Regulation and control of the 138 kV ac system voltage
- Dynamic, fast response reactive power support following system contingencies
- High reliability with redundant parallel converter design & modular construction
- Operational flexibility through auto-reconfiguration design

The Talega FACTS is also designed for future operation as a Back-to-Back DC-Link (BTB). The BTB System would have a power transfer rating of 50 MW, and would be able to deliver power bi-directionally between the east and west buses at Talega. The DC-Links are physically in place for this future option, which would essentially require only software-based control adjustments for BTB operation.

SDG&E Talega -100/+100 Mvar, 138 kV STATCOM / BTB System



| | |
|----------------|---|
| Project Name | SDG&E Talega STATCOM / BTB FACTS Project |
| Commissioned | February 2003 |
| Location | Talega Substation near San Clemente, California, USA |
| Dynamic Rating | -100 to +100 Mvar (STATCOM) 50 MW (future BTB DC-Link) |
| System Voltage | 138 kV-ac |
| Converter Type | 3-Level Voltage Sourced Converter Design |
| Configuration | 8 Converter Sets in Parallel |
| GCT Ratings | 6-kV / 6-kA (6 inches) |
| Control | Volt - Var Switchable Control |

TMT&D

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•The data given in this catalog are subject to change without notice.