
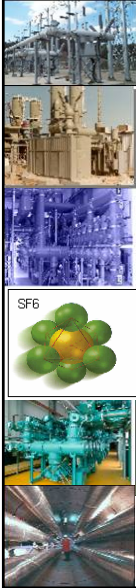



IEEE/PES Substation Committee - GIS Subcommittee








IEEE

Substations Committee Working Group K2 Module


Gas Insulated Substation (GIS) Applications

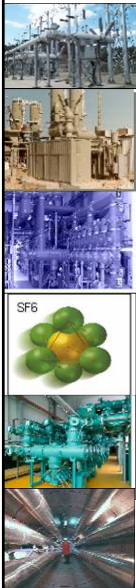
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Applications Jacksonville

- Jacksonville, Florida, USA
- Ratings


U_r	138 kV
I_r	2500 A
U_{BIL}	650 kV
I_s	50 kA

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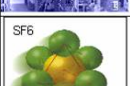


- 2 -



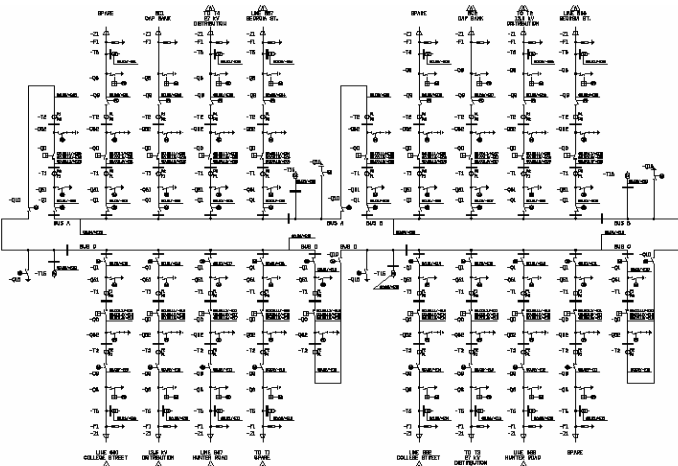
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Applications Jacksonville









Single Line




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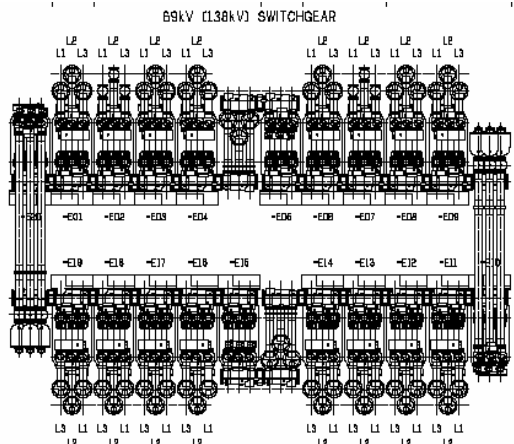
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Applications Jacksonville


Southside Substation – Physical Arrangement




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Applications Jacksonville

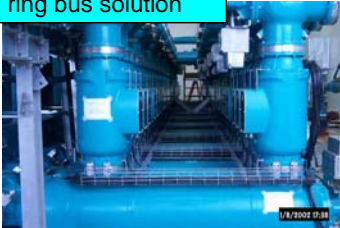



View of the substation building



View into one half of the GIS ring bus solution



View of local control cubicle (LCC) in the center walkway



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Applications Jacksonville












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Applications Taylor Street

- Taylor Street, Chicago, USA, ComEd

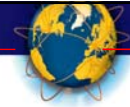
- Ratings

U_r	362 kV
I_r	4000 A
U_{BIL}	950 kV
I_s	63 kA

- Single line, physical arrangement

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Applications Taylor Street



GIS Substation
Taylor Street, Chicago,
USA, ComEd
362 kV/63 kA, 4000 A



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Applications Puget Sound

- Puget Sound, Bow Lake Substation, USA
- Ratings

U_r	145/115 kV
I_r	2000 A
U_{BIL}	650 kV
I_s	40 kA

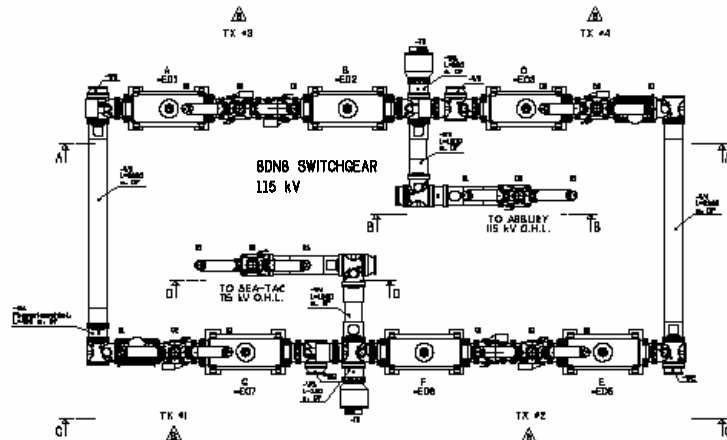
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Applications Puget Sound


Plan View




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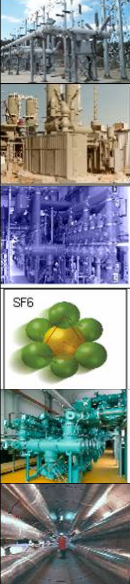
- 10 -

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Applications Puget Sound

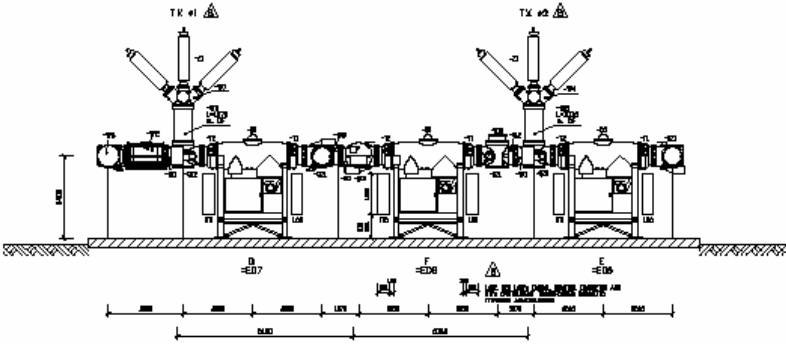




SF6

Physical Arrangement


SECTION C-C



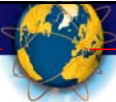
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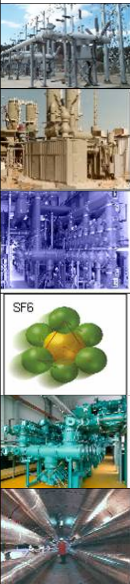
- 11 -

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Applications Puget Sound






SF6

View of the small spot for the GIS substation




2001/04/22

Connection to overhead lines

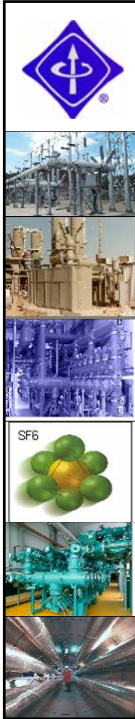
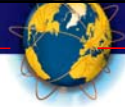


Installation – view of 3 phase busbar section



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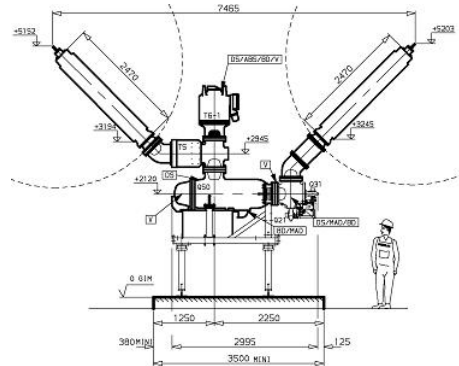
Applications Termobahia

- Termobahia - Rio de Janeiro, Brazil

Ratings

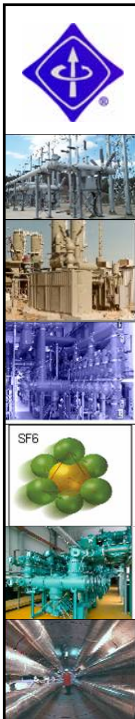
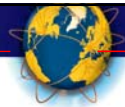
U_r	245 kV
I_r	2000 A
U_{BIL}	1050 kV
I_S	40 kA

- GIS modules with potential transformers outdoor installation



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Applications Termobahia


Overview Picture

- Modules have been selected by customer as optimized solution for retrofitting the existing AIS substation.
- There is no advanced condition monitoring installed.










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Applications Termobahia




Potential transformers have been installed on the module itself.







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Applications Braintree


- Braintree
- Ratings

U_r	115/13.8 kV
I_r	2000 A
U_{BIL}	550 kV
I_s	31,5 kA
- Single line, physical arrangement
2 lines tie breaker

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Applications Braintree





















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Applications Braintree

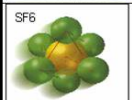







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Applications Barbana



- Barbana

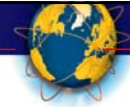
- Ratings

U_r	145 kV
I_r	2000 A
U_{BIL}	650 kV
I_s	40 kA

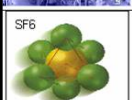
- Single line, physical arrangement
The GIS and Transformers are located under an public park.
The substation supplies the inner city with energy.

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Applications Barbana










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Applications


Barbana










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Application

Alabama Avenue


- Project Name Alabama Avenue
- Customer Potomac Electric Power Co. (PEPCO)
- Location Washington D.C.
- Ratings

U_r	230 kV
I_r	2000 A
BIL	
I_s	50 kA


- 3 bays with single busbar and direct parallel connection to transformers and HPFF cables on each feeder.







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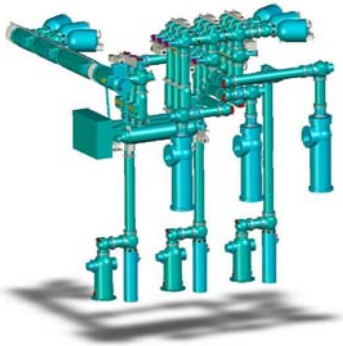

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Application Alabama Avenue














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Application Alabama Avenue



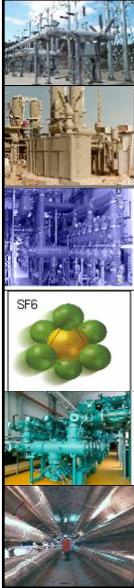









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Application Rowan University Substation



- Project Name Rowan University Substation
- Customer Rowan University
- Location Glassboro/NJ

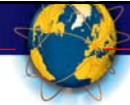
- Ratings

U_r	69 kV
I_r	2000 A
BIL	350 kV
I_s	40 kA

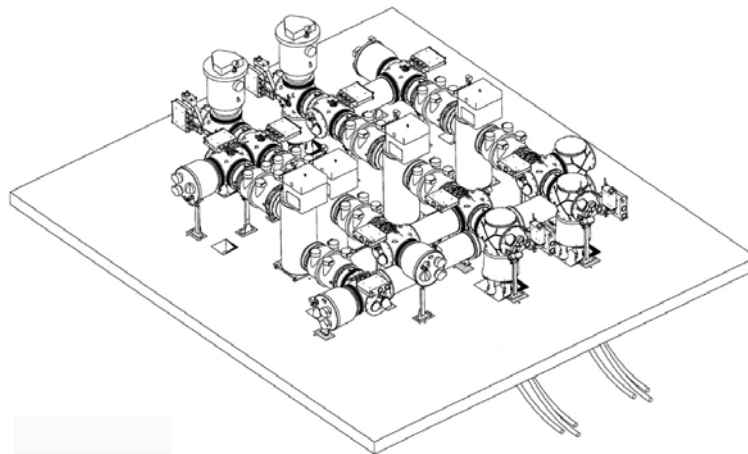
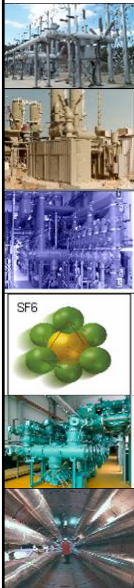
- 4 breaker ring arrangement with double cable connections, installed outdoor, incl. control & protection

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Application Rowan University Substation



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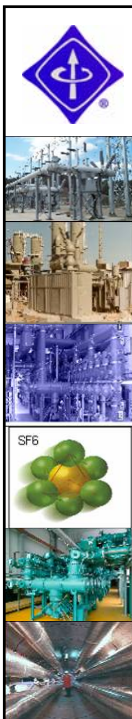
Applications West Loop

- Project Name TSS 148 "West Loop"
- Customer Exelon / ComEd
- Location Chicago/IL

- Ratings

U_r	345 kV
I_r	3150 kV
BIL	1050 kV
I_s	63 kV

- 5 bays type 8DQ1 in ring bus arrangement with double cable connections and SF6-air-bushings to the transformers. Prepared for future extension with another 5 bays.



Application West Loop



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Application West Loop




















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Application West Loop

Special features:

The substation TSS 148 West Loop is part of a large project for the reinforcement of the Chicago power supply. Upon request of the customer the delivery and erection was accelerated three months.

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