ELECTRICAL DISTRIBUTION NETWORK TECHNICAL LOSSES FORECAST

Goal of the project

Distribution network real technical losses evaluation for e-Distributie Banat Distribution System Operator. Power flow computing for various operating condition of the Western and South-Western part of the Romanian Power System has been performed.

Short description of the project

An algorithm is proposed for technical losses forecast.

Project implemented by

Servelect Cluj-Napoca & e-Distributie Banat Distribution System Operator

Implementation period

2017

Main activities

The study was conducted for e-Distributie Banat Distribution System Operator. Quantitative and qualitative on-field measurements are provided and discussed, followed by the technical losses computing based on the provided algorithm. Different necessary scenarios for the distribution network operator have been taken into consideration highlighting the optimal operating conditions.

Results

- algorithm used for technical losses evaluation;
- 2 approaches have been developed, comparative analysis has been performed;
- electrical distribution network simulation model;
- technical losses' reduction methods.

Applicability and transferability of the results

The algorithm used for technical losses evaluation is able to be applied in case of any distribution network operator. Also, based on the achieved experience, other (or similar) technical losses reduction methods could be highlighted in case of other distribution operators.

Financed through/by

Servelect Cluj-Napoca, total value: 11900 RON

Research team

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Consum Propriu Tehnologic
Regiunea REGIUNE1

Date Statistice Anuale					
Anul	CPT IT [MWh]	CPT IT [%]	Energia Intrată IT [MWh]	Contur Distributie IT [MWh]	Energia Iesită IT [MWh]
1	36,528	0.64%	5,712,707	675,114	5,676,179
2	37,291	0.68%	5,506,774	491,288	5,469,483
3	43,798	0.81%	5,434,017	488,320	5,390,219
4	40,523	0.73%	5,548,860	571,440	5,508,337
5	43,415	0.79%	5,491,358	590,714	5,447,943

Factor de corelatie	1.000

Date Prognozate Anuale					
Anul	CPT IT [MWh]	CPT IT [%]	Energia Intrată IT [MWh]	Contur Distributie IT [MWh]	Energia Iesită IT [MWh]
6	45,413	0.84%	5,418,559	536,780	5,373,147
6	45,086	0.83%	Metoda NUMEMETODA1		
Abatere	0.72%				

Metoda NUMEMETODA2					
Anul	CPT IT [MWh]	CPT IT [%]	Energia Intrată IT [MWh]		Energia Iesită IT [MWh]
6	45,450	0.84%	5,418,600		5,373,150

Încărcare Date Statistice

Prognoză Anuală

Prognoză Trimestrială

Factor de Corelatie: 1.000

Consum Propriu Tehnologic
Regiunea Regiune1

Date Statistice Trimestriale					
Anul	CPT IT Anual [MWh]	CPT IT Trimestru 1 [MWh]	CPT IT Trimestru 2 [MWh]	CPT IT Trimestru 3 [MWh]	CPT IT Trimestru 4 [MWh]
1	36,528	11,897	8,011	6,980	9,640
2	37,291	10,571	8,509	7,267	10,944
3	43,798	10,229	8,923	8,420	16,226
4	40,523	11,435	9,320	8,385	11,382
5	43,415	12,234	6,933	6,333	17,915

Date Prognozate Trimestriale					
Anul	CPT IT Anual [MWh]	CPT IT Trimestru 1 [MWh]	CPT IT Trimestru 2 [MWh]	CPT IT Trimestru 3 [MWh]	CPT IT Trimestru 4 [MWh]
6	45,413	12,776	9,454	8,456	14,726

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