



POLITECNICO
DI TORINO

Honors thesis

DEGREE IN ARCHITECTURE

Abstract

**ARCHITECTURE FOR ELECTRICITY
WORKS AND INFRASTRUCTURES
OF A.E.M TURIN
(1907-1997)**

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by

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December 2016

The aim of this thesis is to study, identify and document the network of infrastructure, which comprise the heritage of the Azienda Elettrica Municipale of Turin (A.E.M.) built in the last century for the production, transport and distribution of electricity. A little known heritage consisting of large and little building structures and hydraulic works which make up a complex electrical system, which, by virtue of their characteristic design and technology actively contribute to build up an environmental, historical and cultural achievement of great interest to protect and enhance.

The thesis consists of two volumes: the first contains a general section in which the emergence and development of the new form of energy is analysed; the socio-political and economical context in which Turin finds itself in the early twenty century; the creation of A.E.M; the ability of the municipal administration of Turin to utilize the provision and delivery of public services, to build the plants and to produce the electricity at the lowest cost in Europe; the consequences of the distribution of electricity, for the landscape and in architectural terms and creating new building structures like the power station.

The second part of the first volume, which is the main one, is characterized by the audit of A.E.M. electrical and thermal plants (dikes, intake works, dams, power stations, penstocks, lodging for staff and keepers, etc.) and from the description of the structural and functional features ,with the help of numerous and recent photographs.



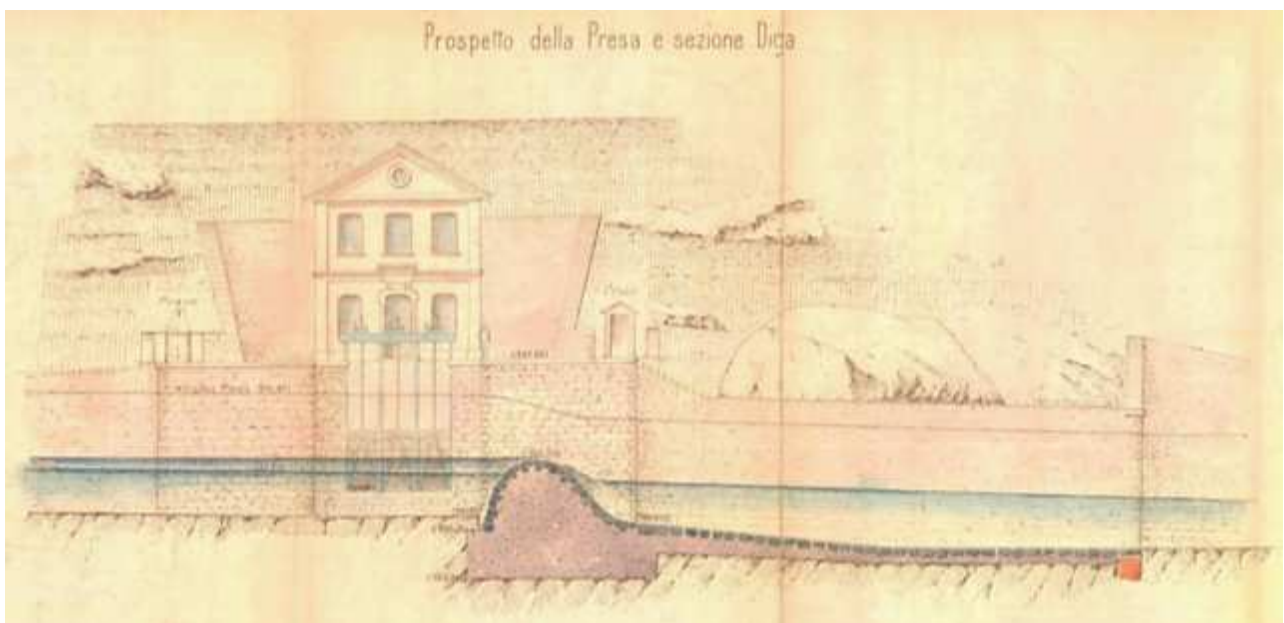
Orco Valley - The Serrù Dam (2015)

The structures described and analysed are those of the “Martinetto” in Turin (first establishment of production and distribution of heat energy), of Stura-San Mauro and Moncalieri (flowing water systems on the river Po), of the Dora Valley, with derivations between Salbertrand and Chiomonte (first A.E.M. hydroelectrical power plant) and between Chiomonte and Susa, of the Orco Valley, with tributary of the torrents Orco e Piantonetto and various ancillary outlets on the itinerary of both rivers.

The complex system of the hydroelectric plants in the Orco Valley, includes many structures constructed from the Colle del Nivolet, bordering the Aosta Valley, up to the area of Pont Canavese.

Finally the distribution network in Turin as well as some transformer stations and substations of special interest are analysed.

The second volume presents, by way of attachments, the drawings, floor plans and historical photographic documentation concerning infrastructure works analysed in the first volume.



Dora Valley – Construction Drawing of the hydraulic works in the hydroelectrical power plant in Chiomonte
Intake Works in Serre la Voute (1904)

The audit of building structures was performed through inspections on the plants and through research of the plans at the archives of the former Servizio Costruzioni of A.E.M., in Turin and in Rosone.

The research led to the discovery of numerous works, most of them forgotten, due to their location in the high mountains or because they had been completely demolished.

Material retained in the archives consists of several elaborate works (outline projects, completed projects, testing, static and structural calculations), run directly by the A.E.M. technicians as well as of a wide historical-photographic documentation stored digitally, useful for understanding the implementation phases of the individual structures, tools and resources used by the workers in the process of the execution of the works.



Turin – The Martinetto Power Plant (1907)

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