## Dams and related infrastructure

- **Mesochora HPP – Reservoir Balance and Runoff Study:** A detailed study of reservoir water balances and runoff patterns for the Mesochora Hydroelectric Power Plant (HPP) was completed. Client: Public Electricity Company, 2025.
- **Mesochora HPP – Hydrological Study Update and Dam Works Adequacy Documentation:** The hydrological study was updated, and documentation confirming the adequacy of the dam's technical works for the Mesochora HPP was prepared. Client : Public Electricity Company, 2025
- **Reservoir Capacity Re-evaluation Study, Nipsa Dam for drinking water supply in Alexandroupoli area (2024):** The capacity of the Nipsa Dam reservoir was re-evaluated. This included analyzing the Aisimis Dam spillway behavior with and without fuse gates, investigating options for manual reservoir level lowering, and recalculating reservoir capacity to increase annual water withdrawals. Client: Municipal Water Supply and Sewerage Company of Alexandroupoli (Client: Municipal water supply and sewage company of Alexandroupolis).
- **Safety Assessment Files (SAEK) for Acheloos Complex Dams (Kremasta, Kastraki, Stratos) (2021):** Comprehensive and fully documented Safety Assessment Files (SAEK) for each dam were prepared, including required forms, drawings, and accompanying maps as per SAEK standards. Support was provided to PPC (Public Power Corporation) for submission, obtaining approval from the Dam Administrative Authority (DAF), and submission to the Civil Protection agency. Client: Public Electricity Company, 2025.
- **Safety Assessment Files (SAEK) for Arachtos Complex Dams (Pournari, Arachtos Regulating Works) (2021):** Complete Safety Assessment Files (SAEK) for the Pournari Dam and the Arachtos Regulating Works were prepared, including all required documentation. Support was provided to PPC in the submission process, DAF approval, and submission to the Civil Protection agency. Client: Public Electricity Company, 2025.
- **Evaluation of Existing Studies for Tavronitis Basin, Chania (Papadianon–Semprenioti Dams) (Recent):** Existing studies for the Tavronitis basin were evaluated. The objective was to compile Sub-file A of the "Public Study Contract File" to prepare for tenders for two new studies: "Study of Water Resource Utilization Works for Tavronitis River P.E. Chania, Crete" and "Final Design of Dams in the Tavronitis River Basin, Chania Prefecture – Papadianon–Semprenioti Dams and Communication Tunnel between Reservoirs." Client: Directorate of Flood Control & Land Reclamation Works (DAEE), Ministry of Infrastructure & Transport.
- **Cost-Benefit Analysis & Study Update for Agioneri Dam Restoration, Larissa Prefecture (Recent):** Three existing studies for the Agioneri Dam project were updated, covering hydraulic works, water intake works, and irrigation networks. The update involved revising work types and quantities, merging them into a single study, and updating unit prices to align with current standards and the Public Works Descriptive Price List, facilitating full project implementation. Client: Directorate of Technical Works, Region of Thessaly.
- **Support Studies for Karla Reservoir Approval by Dam Administrative Authority (DAF) (Recent):** Supporting studies for the approval of the Karla Reservoir by the Dam Administrative Authority (DAF) were provided. This included two years of monitoring Karla embankments' behavior (measuring water levels/pressure within the embankment and foundation, and movement monitoring) and two years of monitoring and recording data from the electro-mechanical equipment's instruments to predict future reservoir behavior. The firm also prepared necessary studies and tender documents

for the dam's approval file, adhering to the Dam Safety Regulation. Client: Directorate of Technical Works, Region of Thessaly.

- **Iasmos dam in Prefecture of Rodopi.** The study has been assigned by the Greek Ministry of Rural Development and Food. It is a concrete-faced rockfill dam over 90m high and with a reservoir of effective volume of 425 million m³. The assessment includes the Final Study and tender documents. The environmental aspect is important since Kompsatos River supplies the Vistonida lake (including others), which is a protected area.

- **Water supply of the Prefect of Chalkidiki in northern Greece.** Design of an earth dam with a capacity of 6 million $m^3$, a water treatment plant with a capacity of 355,000 $m^3$/month, water supply networks with a length of 50 Km with 6 pumping stations and 10 storage tanks and preparation of construction tender documents. The main components of the water treatment plant are:
  - Rapid Mixing Unit
  - Flocculation-Sedimentation Unit
  - Distillation unit
  - Chemicals building
  - Chlorination tank
  - Sludge thickening tank.

  The work was commissioned by the Ministry of Environment, Rural Planning and Public Works and includes Preliminary and Final design and tender Documents.

  Total Cost of the works : ~50,000,000 €. (Ministry of Environment, Regional Planning and Public Works/ General Secretariat of Public Works, Directorate for Water Supply & Sewerage, 2012).

- **Ecological Flow Study Downstream of Stratos Dam, Acheloos River (2008):** This specialized technical study for PPC's Hydropower Generation Directorate focused on ensuring the mandated ecological flow (21.1 $m^3$/sec) downstream of the Stratos I HPP exit canal. The study proposed operational adjustments and necessary hydraulic works to homogenize the flow both temporally and spatially. It also considered updated hydrological data for potential recalibration of the ecological flow value. The study will be approved by the Special Environmental Service (EYPE) of the Ministry of Environment.

- **Supply of the town Patras with water from Peiros and Parapeiros rivers – Final Design of dams Asteriou and Valmadouras and conveyance pipe system.** Tender Documents preparation. The study has been assigned by the Ministry of Environment, Rural Planning and Public Works. The works include:
  (a) Asteriou earthen dam 75.00 m high, of total volume 6.4 million m³ with an effective volume dam 40 million m³. Curtain of grouting has been designed, to prevent groundwater flows and drainage tunnels have been designed for the collection and control of occasional leakage. Diversion, intake and evacuation devices were designed, consisting of tunnel, three manholes, intake pipe, evacuation pipe, valves, etc. The spillway is placed on the right retain wall and embodies lateral ogee, canal of conveyance and downfall and spurt and injection tub. It has been designed for the PMF Q=1,700$m^3$/sec.
  (b) Valmadoura diversion dam in river Peiros. It is a concrete dam, 9.,00 m high.
  (c) Conveyance Pipe between Valmadoura dam and Asteriou dam 10.3 km length, with a capacity of 1.50$m^3$/sec.

  The estimated cost of the works is 74,300,000 €, 2004.

- **Water storage pond on Tilos Island.** The purpose of the study was the modification of existing final design of the water intake structure. Specifically, the position of the structure was changed. Also the

HDPE pipes substituted for the originally proposed open channel. The study was carried out for the project contractor PINDOS (2001).

- **Environmental conditions restoration downstream of Mesohora dam on Aheloos river** for the project contractor METON-AEGEK under the supervision of the Public Electricity Company. Selection of construction material disposal sites and detailed design of the channel cross-section based on flow characteristics determined by hydraulic analyses. River banks protection design. Slope protection. Riparian planting and landscape design (1998).
- **Study of potential failure of earthen Partheni dam on Leros Island,** for the Ministry of Agriculture. Temporal and geometrical description of failure and routing of the resulting flood wave through the downstream valley using the appropriate software. Dam and reservoir characteristics and downstream topography were considered. Analysis of various failure scenario (1997)
- **Study of potential failure of the earthen Mia dam on Kos Island,** for the Ministry of Agriculture. Temporal and geometrical description of failure and routing of the resulting flood wave through the downstream valley using the appropriate software. Dam and reservoir characteristics and downstream topography were considered. Analysis of various failure scenario (1997).
- **Study of potential failure of Livadi dam on Patmos Island,** for the Ministry of Agriculture. Temporal and geometrical description of failure and routing of the resulting flood wave through the downstream valley using the appropriate software. Dam and reservoir characteristics and downstream topography were considered. Analysis of various failure scenario (1997).
- **Reservoirs in Dodecanese Islands (Nissyros, Kalymnos, Tilos, Lipsi, Arki, Agathonisi).** Detailed design and preparation of tender documents for 6 reservoirs with capacities up to 360,000 $m^3$, lined with geomembrane, impounding waters collected from adjacent small basins. To be used for domestic water supply and small scale irrigation in the islands. The project included detailed geological, hydrogeological and soil mechanics investigations (Ministry of Agriculture, 1990-93).
- **Myrtofyto dam.** Design of a rockfill dam with clay core, of a maximum height of 32.50 m with appurtenant structures, in Kavala District, Northern Greece. The design included topographical surveys, geological and soil mechanical investigations (Kavala Regional Fund, 1993-95).
- **Achira dam.** Design of an earth dam of a maximum height of 32.5 m, with appurtenant structures, including a 2.1 Km long intake tunnel, creating a reservoir of 40 million $m^3$ capacity, for the irrigation of Xiromero region, Western Greece. The design included topographical surveys and detailed geological, hydrogeological, soil mechanical investigations and environmental studies (Ministry of Environment, Regional Planning and Public Works, 1989-91, 1994-95).
- **Patmos dam.** Design and tender documents of a rockfill dam with concrete facing of a maximum height of 25.5 m with appurtenant structures, in Patmos Island, Dodecanese. The design included topographical surveys and detailed geological and geotechnical investigations (Ministry of Agriculture, 1993).
- **Leros dam.** Design and tender documents of a rockfill dam with clay core, of a maximum height of 21.0 m with, appurtenant structures, in Leros Island, Dodecanese. Due to adverse geological conditions, an extensive geological and geotechnical investigations has been carried out (Ministry of Agriculture, 1993-94).
- **Mia dam.** Design and tender documents of an earth dam of a maximum height of 22.0 m and appurtenant structures, in Kos Island, Dodecanese (Ministry of Agriculture, 1993-94).

- **Evinos dam.** Participation in the design and preparation of tender documents of an earth dam of a maximum height of 104 m and appurtenant structures. The project aims to the improvement of the water supply of Greater Athens Area with 200 million $m^3$ of water per year. The work included extensive geological and geotechnical investigations and environmental studies (Ministry of Environmental, Regional Planning and Public Works, 1990-91).
- **Astypalaia earth dam.** Design of an earth dam, of a maximum height of 24 m and appurtenant structures for irrigation and domestic water supply, in the island of Astypalaia. The work included detailed geological mapping, exploratory borings and soil mechanical investigation, detailed drawings, specifications and tender documents (Ministry of Agriculture, 1979-80).
- **Development of Malavra springs, in Creta Island.** Design of a concrete cut – off wall and appurtenant structures for the catchment of the coastal karstic springs of Malavra, and their utilisation for irrigation purposes (Ministry of Agriculture, 1986-90).