



REPUBLIC OF ALBANIA
ALBANIAN COMMITTEE OF LARGE DAMS (ALBCOLD)

KKDM/Nr. Prot
Lutemi referoni këtë numër në përgjigje

Tirana, më 21 / 09 / 2022

GENERAL GUIDELINE

ON

Technical files / Passports of dams

The technical file/Passport of Dams must be drawn up based on the Decision of the Council of Ministers No. 147, dt. 18.03.2004, Article 34, in the requirements of Directive No. 4 of the Council of Ministers, dt. 18.07.2003 "For the requirements of the legal and technical documentation that should be contained in the file of Dams and Dams" as well as in the Decision of the KKDM No. 2, date 21.09.2020

In this Passport must be given:

- The general technical data of all the elements of the Dam defined in VKM No. 147, dt. 18.03.2004, Article 3,
- Technical data regarding the impermeability elements
- Data regarding the Watershed Created by the Construction of the Dam (processing volume, exploitation volume and dead volume) as well as the sliding Massifs (if any) on the banks that surround it
- Technical Drawings of the Body of the Dam and the Discharge, Diversion, Water Intake and Emptying Systems (at least their Plan and Cross and Longitudinal Sections)
- Photograph of the current situation of the Dam and its elements
- Studies and Supporting Reports
 - ✓ Geological, Geotechnical, Geological-Engineering Study and Report
 - ✓ Seismic Report
 - ✓ Hydrological Report
 - ✓ Report on Building Materials
 - ✓ Hydraulic Report including the results of the relevant calculations
 - ✓ Report on Control and Measurement Instruments and Monitoring Systems
 - ✓ Each necessary technical document requested by KKDM in accordance with the requirements of Instruction No. 4, Dt. 18.07.2003 "For the requirements of the legal and technical documentation that should be contained in the file of dams and dams"

In order to unify the form of presentation of the requested data, the Technical File/Dam Passport will be provided according to Form No. 1 approved by KKDM which is attached to this Guideline.

For dams that have been in use for more than 10 years, the Technical File/Dam Passport must also contain data related to Repairs or Improvements that have been recently carried out, as well as data for recently carried out Bathymetric measurements together with the results of of these measurements for the volume and surface of the watershed at its maximum level accompanied by the graphs $V=f(h)$ and $S=f(H)$.



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For hydropower dams that are in use and for dams that have installed filtration monitoring systems, seismic monitoring, geodetic monitoring, piezometric monitoring and geological monitoring, the Technical File/Dam Passport must also contain technical data related to the systems of Monitoring, the installed measuring instruments of these systems, their number, the time of installation, their distribution in the area accompanied by their respective symbols and a plan of their placement.

On the behalf of

ALBANIAN NATIONAL COMMITTEE OF LARGE DAMS

CHAIRMAN

Arjan JOVANI



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Form 1

Passport of the Dam:

I- GENERAL:

Name of Dam:

Name of the River/ Stream which the Dam has access to:

Name of the Beneficiaries of the Dam:

Name of the Designer of the Dam (Institute):

Main Purpose of Dams usage:

Auxiliary purpose of Dams usage:

Territory of the municipality where the dam is located:

Territory of the district where the dam is located:

Territory of the district where the reservoir is located:

The way the Reservoir is Filled:
(with main river / stream flow, other streams, feed channel, etc.)

Authors of supporting studies (name of company or principal):

- Geological and Geotechnical studies:
- Seismic:
- Hydrogeologic studies
- Hydrological Studies:
- Construction Material:

Coordinate N of the middle of the Dam Crest: N-.....

Coordinate E of the middle of the Dam Crest: E-.....

Coordinate Z of the middle of the Dam Crest: Z-.....

Dam Class referred Risk assessment:

Number of People and land at Risk in Case of Dam failure:



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III. GENERAL TECHNICAL DATA OF DISCHARGE SYSTEMS, INTAKE & DEVIATIONS SYSTEMS

III.1 – Discharge Systems/ Spillways

Type of Discharge Systems:
(Tunnel, free gutter, side gutter, surface gate, wells)

Number of Spillway's: N-.....

Total Capacity of Spillways: Qsh-

Dimensions in the entrance of Spillway:

Water intake threshold level at the discharge system in masl:

Flow Accelerator Length and Width:

Location of the Spillways System:

III.2 – Water Intake Systems

Type of Water Intake Systems:

Total water intake capacity: Qvm-

Dimensions in the entrance of the Water intake System:

Water intake threshold level at the Intake Structure in masl:

III.3 – Water Drainage Systems

Type of Water Drainage Systems:

Number of Water Drainage:

Maximum Flow / Total Capacity of Water Drainage System: Qz-

Dimensions at the entrance of the Water Drainage System:

III.4 – Deviation System

Type of Deviation System:



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IV- General Data for the Reservoir

- The surface of the water in the Reservoir at the maximum level in m2:
- Surface of water in the Reservoir at Operation normal level:
(In this case, give the time of performing bathymetry measurements and the curve $S = f(H)$)
- Total volume of water according to the project at the maximum level:
(In this case, give the curve $V = f(H)$)
- Total volume of water measured in the Reservoir at the maximum allowed level:
(In this case, give the time of performing bathymetry measurements and the curve $V = f(H)$)
- Useful volume of water according to the project at the maximum level:
- Useful volume of water according to the project at the minimum allowed level:
- Dead Water volume of Reservoir:
- Dead volume filling time:
- Maximum level for normal use during operation:
- Maximum water level allowed for maximum inflow once in 10,000 years:
- Minimum designed level of Reservoir during Operation:
- Minimum water level recorded since the starting of operation:
- Maximum water level recorded since the starting of operation:
- Average annual foreseen flow:
- Average annual flow for the last 10 years of operation until 2020:

Note: attached to this section of Form 1, provide the relevant graphs:

- a- $V=f(H)$
- b- $S=f(H)$



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V. GENERAL INFORMATION ON CLIMATE AND HYDROLOGICAL CONDITIONS

Catchment Surface Area:

Average annual rainfall:

Minimum temperature recorded in the axis area of the Dam:

Maximum temperature recorded in the axis area of the Dam:

Average river / stream flow in the axis of the Dam in m³ / sec:

Maximum river / stream flow in the axis of the Dam in m³ / sec, measured:

Date / month / Year of maximum measured flow:

Five Maximum Historical Flows measured during the operation of the Dam:

(in this case give the year and the amount of metered feeds)

VI. GENERAL DATA ON THE SEISMIC CONDITIONS OF THE AREA

Seismicity of the Area:

Seismic Risk Assessment of the Area:

Largest earthquakes recorded in an area till 100 km from the axis of the Dam:

a- Intensity:

b- Power:

VII. GENERAL INFORMATION ABOUT THE GEOLOGICAL AND GEOTECHNICAL CONDITIONS OF THE AREA

Geological construction of the dam location:

Hydrogeological conditions of the area:

Geomorphological conditions of the area on the dam location:

Slope stability conditions:

Geological and geomorphological map of the area:



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Planimetry of installation of equipment for dam monitoring:

V- TECHNICAL DRAWINGS

a- Dam Body:

- General layout of the Dam together with the discharge and water intake systems
- Longitudinal section of the Dam
- Cross section in the middle of the dam

b- Drainage System:

- General Layout of the Drainage System
- Longitudinal section of the Drainage System
- Cross section of the Drainage System
- Front View of the Drainage System Entry
- Drainage System Exit Front View

c- Water Intake System

- General layout of the Water intake system (Location of the intake structure)
- Longitudinal Section
- Cross Sections



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VIII. DATA ON THE MONITORING SYSTEMS (IF THEY ARE INSTALLED)

a. Data for the Geodetic Monitoring System:

- Number of Concrete Monuments:
- Number of Geodetic Reference Points:
- Number of Geodetic Levelling Points:
- Number of Pillars:
- Number of Geodetic Strengths:
- Layout of equipment location of the geodetic monitoring system:

b. Data for the Seismic Monitoring System:

- Number of Seismographs / Accelerometers:
- Registered data of recorded seismic events:
- Layout of seismic monitoring system equipment:

c. Data for the Hydrometeorological Monitoring System:

- Number of Hydrometric Stations for measurement of water levels:
- Number of Meteorological Stations:
- Planimetry of instruments location of the Hydrological monitoring system:

d. Data for the Groundwater and Surface Water Monitoring System:

- Number of Piezometers:
- Number of Garages:
- Other equipment for measuring groundwater and surface water (if they are installed. Such as fibre for measuring filtration in the body of the dam by recording and distributing temperature along the cable, etc.:
- Total amount of infiltration water in the last year of measurement:
- Layout of equipment location of the ground water monitoring system:

e. Data for the Landslide Monitoring System (if any):

- Number of Inclinometers:
- Number of Joint meters:
- Number of tilt meters:
- Number of extensometers:
- Number and type of piezometers for measuring water levels (if any):
- Layout of Landslide Monitoring Instruments:
- Volume of the landslide Massive:



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IX. RECENT PHOTOS OF THE DAM AND IT'S SYSTEM

- Photo of the Dam (In the front):

- Photo from the Dam Crest

- Photos of the Upper Side of the Dam



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- Photos of the Down Side of the Dam

- Photo of the Spillway system and it's location on the Dam

- Photo of the Intake Structure of the Dam's system

- Photo from the Dam's Crest of the Reservoir



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X. SUMMARY OF SUPPORT STUDIES (If any)

- Geological / Geotechnical / Geological-Engineering Report Summary (no more than 3 pages)

- Seismic Report / Study Summary (not more than 2 pages)

- Summary of the Hydrological Report / Study (not more than 2 pages)

- Hydraulic Report Summary (no more than 2 pages)

- Summary of the Report / Study on Construction Materials (Not more than 2 pages)

For the Dam Engineer

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