

CIRRICULUM VITAE

Personal Data



Name : **VICKO LETICA, Dipl.C.E.M.Sc.(Eng)**

Born : 1954.

Nationality : Yugoslav

Profession : Civil Engineer – Structural, Construction

Working experience : **34** years

Position : **Brane-HPP-WTP Co.**
Consultant for Civil Structures Engineering

HPP and Dams Djerdap and Bajina Basta
Expert-concrete and steel structures

Education & Specializations

Education : University of Belgrade, Faculty for Civil Engineering
1980. Dipl.Eng. Civil (B.Sc.)
1990. M.Sc. in Technical Sciences of Seismic engineering

Authorization : Professional Chartered Engineer in Civil Engineering.
Licence No. 904/G-1984.

Computer Skills : Structural Design programs:
STAAD (STRESS), SAP, ADAP, EATSW
Developed programs:
STVI, STLE-program for massive structure analysis stability.
TEMPA-program for the analysis of temperature effects in massive structures
ARCB-program for the analysis of arch dams
The programs have been tested, published and used for great many designs of large dams.

Foreign Experience : Iraq, Peru, Romania, Russia

Languages Proficiency	:		<u>speaking</u>	<u>writing</u>	<u>reading</u>
		English	fluent	very good	very good
		Russian	fluent	good	very good

Key Qualifications, Specialty & Areas of Expertise

Key Qualifications : *Marketing, preparation of bids and contracts for domestic and foreign tendering. Organization, supervision, revision and expertise on civil structures design (Structure, Soil Mechanics, Architecture and Construction Management).*

Organization, Control Revision and direct participation in designs:

- Expert. **Revision, Supervision and Expertise for steel and concrete structures on the power plant and dam Djerdap- Serbia (2009-2014)**
- Expert. **Revision, Supervision and Expertise for steel and concrete structures on the power plant and dam Bajina Basta- Serbia (2011-2014)**
- Chief Structural Designer **Preliminary, Final and Detail Design for Small dams HPP Vrgudinac and HPP Ciflik (13,00 m,14.50 m high), Serbia (2011-2014)**
- Quality control Manager and Responsible for dam design. **Final Design and Tender documentation for RCC gravity dam Bakurman and gravity dam Khalikan–Iraq, 115,00 and 20,00 m high. (2009-2012)**
- Responsible for dam design. **Preliminary, Final Design and Tender documentation for RCC gravity dam Bassara –Iraq, 73,00 m high. (2007-2009)**
- Quality control Manager. **Preliminary, Final Design and Tender documentation for rockfill and gravity dam Taq-Taq –Iraq, 70,00 m high. (2006-2011)**
- Quality control Manager and Responsible for dam design. **Preliminary, Final Design and Tender documentation for RCC gravity dam Bassara –Iraq, 73,00 m high. (2007-2009)**
- Quality control Manager and Responsible for dam design. **Updating of Designs and Tender documentation for dam Bekhme, 220,00 high. Preliminary Design for new RCC dam Bekhme and rockfill dam Mindava, (87,00 m and 115,00 m high). (2005-2011)**
- Quality control Manager. **Preliminary Design for Concrete face rockfill dam Giba –Ethiopia, 84,00 m high. (2009)**
- Project Manager for **Rehabilitation and repair of the gravity dam Moravica (16,00 m high) 100 years old. Study for repair and technical solution of new dam. (2009-2010)**

- Project Manager for the **Study report on maintaining, managing and monitoring on 28 existing dams in Serbia.** (2005)
- Project Manager for the **Preliminary Design of Additional Unit V** with installed capacity of 43 MW on hollowgravity dam Bajina Basta, 90,00 m high.(2002-2004)
- Project Manager for the Project of **Monitoring and Final Annual Report on the condition of arch dam HPP Piva** in Crna Gora, 220,00 m high. The Project includes additional analyses of dam with new calculation by FEM for temperatures and hydrostatic influences. (2001-2004)
- Project Manager for **Navigation Lock Iron Gate I Steel Gates Upper part Repair design.** Structure span 34,50 m, 22,50 m high. Supervision on execution works. (2002-2003)
- Project Manager for **Rehabilitation and repair of the Arch Dam El Frayle** (74,00m high) and concrete face rockfill dam Dique de Bloques (23,00m high) -Peru. Study for repair, including computation with analysis for seismic stability. Technical solution of the problem with design for additional works. (1999-2000)
- Project Manager for **Rehabilitation and repair of the Hollow Gravity Dam Bajina Basta**, 90 m high. Final Design for the repair, including additional computation with analysis for stability and technical solution of the problem. Supervision of works execution. (1994-2003)
- Chief Structural Designer for the **HPP Svrackovo Dam** (70,00 m high), including morning glory spillway, water intake, tunnels, stilling basin and power plant. (1998-2003)
- Project Manager for the **Project of Monitoring and Final Annual Report on the condition of Hollow Gravity Dam Bajina Basta**, 90,00 m high. (1999-2003)
- Chief Structural Designer for the **Steel Gates at Iron Gate I Navigation Lock** (span 34,0 m) Final and Detail Design (1998).
- Design Revision, Supervision and Expertise on the Site for the **Power Plant Curumuy** -Peru. (1996).
- Project Manager for the **Regional Water Supply System** of South Adriatic, Montenegro. (1995-1996)
- Revision and Proposal for Repair Solution of **Steel Pipeline** at bottom outlet of Bajina Basta Dam due to unfavorable hydrodynamic and seismic influences.(1993)

- Chief Structural Designer for the of **Hollow Gravity Dam with Power plant BADUSH I** and **Gravity Dam BADUSH II**, 100,00 and 25,00 m high (Iraq). Preliminary, Final and Detail Design. Head of Designing group at Site, giving Client's Staff training. (1988-1990)
- Chief Structural Designer for the **Steel tanks for Wastewater Treatment Plants** Gornji Milanovac. Final Design. (1990)
- Chief Structural Designer for the River Diversion **Andrijevo Arch Dam and Raslovici Gravity Dam**. Final Design. (two Arch Cofferdams and diversion tunnels). (1987-1990).
- Chief Structural Designer for the **Administration Building** for the Buk Bijela Dam. Final Design. (1988)
- Chief Structural Designer for **Water Treatment Plant Design** - Gorina-Leskovac. (1991)
- Resident Engineer for Construction Supervision at **Iron Gate II Gravity Dam**. (1985-1987)

Speciality : Hydrotechnical Structures (Dams, HPP and Water treatment plants) Designing (structural and stability analyses with mathematical modeling), Revision, Supervision and Expertise. Special Steel Hydrotechnical structures designing and revisions. Building Construction designing, revision and expertise.

Areas of Expertise : **Seismic Design and Expertise on Hydrotechnical Structures including Hydrodynamic response. Temperature influences on the civil structures.**

Membership : Serbian National Committee for Large Dams.
Subcommittee for Dam Monitoring and Instrumentation.
Serbian Society of Civil Engineers.

Professional experience

2013-2014: BRANE-HPP-WTP c.o.

Dams Djerdap and Bajina Basta

Expert for Civil and Steel Constructions

- Revision, Supervision and Expertise for steel and concrete structures on the power plant and dam Djerdap- Serbia (2009-2014)

Position: Expert.

- Revision, Supervision and Expertise for steel and concrete structures on the power plant and dam Bajina Basta- Serbia (2011-2014)

Position: Expert.

- Small dam and HPP Vrgudinac gravity and fill dam - Serbia . Final and Detail Design for dams of the following characteristics:

.dams height 13,00 m

.dams length at the crest 120,00 m

.installed capacity 1,40 MW

Analyses of dam with calculation by FEM for hydrostatic, and seismic influences.

Position: Quality control Manager - Responsible for dam design

- Small dam and HPP Ciflik gravity dam - Serbia . Final and Detail Design for dams of the following characteristics:

.dams height 14,50 m

.dams length at the crest 96,,00 m

.installed capacity 1,40 MW

Analyses of dam with calculation by FEM for hydrostatic, and seismic influences.

Position: Quality control Manager - Responsible for dam design

2005-2012: -IK Consulting and Engineering Co
Deputy Director for civil engineering structures

Organization, control, revision and expertise of civil structures performed by IK Consulting Engineers. Marketing activities including preparation of contracts and bids. Organization, Control Revision and direct participation on designs:

- RCC gravity dam Bakurman and gravity dam Khalikan -Iraq. Final Design and Tender documentation for dams of the following characteristics:

- .dams height 115,00 m and 20,00 m
- .dams length at the crest 325,00 m and 583,00 m
- .installed capacity 70 MW

Analyses of dam with calculation by FEM for hydrostatic, temperatures and seismic influences.

Position: Quality control Manager - Responsible for dam design

- Rockfill dam with central clay core Taq-Taq -Iraq. Preliminary, Final Design and Tender documentation for dam of the following characteristics:

- .dam height 90,00 m
- .dam length at the crest 1990,00 m
- .installed capacity 3x90 MW

Position: Quality control Manager

- RCC gravity dam Bassara -Iraq. Preliminary, Final Design and Tender documentation for dam of the following characteristics:

- .dam height 67,00 m
- .dam length at the crest 285,00 m
- .installed capacity 2.30 MW

Analyses of dam with calculation by FEM for hydrostatic, temperatures and seismic influences.

Position: Quality control Manager - Responsible for dam design

- Rockfill dam with central clay core Bekhme - Iraq. Updating of Designs and Tender documentation., with the following characteristics:

- .dam height 220,00 m
- .dam length at the crest 268,00 m
- .installed capacity 3x120 MW

The construction was suspended in 1990.

Position: Quality control Manager

- New RCC dam Bekhme and rockfill dam with central clay core Mindava -Iraq. Preliminary Design dams of the following characteristics:

- .dams height 87,00 m and 115,00 m
- .dams length at the crest 300,00 m and 3315,00 m
- .underground power plant with installed capacity 220 MW
- .power plant with installed capacity 637 MW

Analyses of dam stability.

Position: Quality control Manager - Responsible for dam design

- Gravity dam Moravica. Final Design for dam of the following characteristics:

- .dam height 16,00 m
- .dam length at the crest 40,00 m
- .power plant with installed capacity 150 kW

The dam was in operation since 1909. Study for rehabilitation and repair and technical solution of new dam.

Position: Project Manager

- Concrete face rockfill dam Giba –Ethiopia. Final Designs and Tender documentation., with the following characteristics:

- .dam height 84,00 m
- .dam length at the crest 1325,00 m

Position: Quality control Manager

- Small hydropower plants Babino polje and Jara - Montenegro.

- .tyrolian intake height: 4-6,00 m
- .pipe length: 8300,00 m
- .pipe diameter: 0,80-1,60 m
- .installed capacity: 3.4 i 6.5 MW

Pozicija: - Structural Chief Designer

- Water intake for Regional Water Supply System. of South Adriatic Montenegro. Final Design for concrete weir of the following characteristics:

- .weir height 7,00 m
- .weir length at the crest 120,00 m
- .rubber gate height 1,50 m

Position: Structural Chief Designer

- Revision of Final Design of Additional Unit V on hollow gravity dam Bajina Basta, installed capacity 43 MW.

Position: Project Manager

- Prefeasibility study of the alternatives with reduced Bekhme Dam heights- Iraq.

Position: Quality control Manager

- Tunnel „Sozina“ – Montenegro. Study for rehabilitation and repair and Final design of technical solution.

- .tunnel diameter: 3,50 m
- .tunnel length: 4200,00 m

Pozicija: Project Manager

- Study report on maintaining, managing and monitoring on 28 existing dams in Serbia.

Position: Project Manager

- Preliminary and Final Design of Levee reconstruction along Ada Ciganlija-Beograd. Earth-levee system 7.3 km long.

Position: Structural Chief Designer

1997-2004: EP-Hidroinženjering
Civil Constructions Deputy Director
Expert for Civil Constructions

- *Organization, control, revision and expertise of civil structures performed by ENERGOPROJEKT-Hidroinženjering. Marketing activities including preparation of contracts and bids.*

- Preliminary Design of Additional Unit V on hollow gravity dam Bajina Basta, installed capacity 43 MW.

Position: Project Manager

- Project of Monitoring and Final Annual Report on the condition of arch dam HPP Piva in Crna Gora, with following properties:

.dam height 220,00 m

.dam length at the crest 268,00 m

.installed capacity 3.120 MW

Project of additional analyses of dam with new calculation by FEM for temperatures and hydrostatic influences. The dam was in operation since 1975.

Position: Project Manager

- Navigation Lock Iron Gate I Steel Gates Upper part Repair design.

.structure span 34,50 m

.structure height 22,50 m

Repair includes permanent digital monitoring by strain-gauges. Supervision on execution works.

Position: Project Manager

- Arch Dam El Frayle and concrete face rockfill dam Dique de Bloques - Peru.

.arch dam height 74,00 m

.rockfill dam height 23,00 m

Study for rehabilitation and repair, including computation with analysis for seismic stability. Technical solution of the problem with final design for additional works.

Position: Project Manager

- Steel Gates Navigation Lock Iron Gate I. Final and Detail Design for replacement of existing gates on the Middle part. (Span 43,5 m, Height 22,50 m)

Position: Project Manager

- Navigation Lock Iron Gate I. Rehabilitation concrete structures hydro-mechanical equipment. (Span 43,5 m, Length 310,00m)

Position: Project Manager

- Structures on Rockfill Dam Svrackovo 70 m high. Final and Detail Design. for concrete structures:

.morning glory spillway 60 m high

.bottom outlet dia 8,50 m and stilling basin

.water intake 65 m high

.bottom outlet and supply tunnel dia 2.00 m

.power plant with two units of total capacity 7,2 MW

.total length of tunnels 400 m

Position: Structural Chief Designer

- Power Plant Curumuy with installed capacity 12.5 MW (Peru).
Design Revision, Supervision and Expertise on the Site.
Position: Structural Chief Designer

- Project of Monitoring and Final Annual Report on the condition
of Hollow Gravity Dam Bajina Basta, 90 m high.
Position: Project Manager

- Supervision of Bajina Basta Dam repair works.
Position: Project Manager

1995-1996: Structural Division , Chief Engineer

- *Organization, Control and Revision on designs performed in
Structural Division.*

- Regional Water Supply System. of South Adriatic Montenegro.
Final Design for Pipeline 140 km long, dia. 400 to 1100 mm.
Pipeline sections completely submerged and founded on muddy
lake bottom with very low bearing capacity.
Position: Project Manager

- Supervision of Bajina Basta Dam repair works.
Position: Project Manager

- Promenada Road and bridge - Budva -Montenegro. Final
Design. The design includes a bridge of 16.0 m span, road 2 km
and a tunnel of 40.0 m long.
Position: Chief Structural Designer

- Southern Conveyer, Limasoll, Cyprus. Gravity dam, water
Intake and Shaft for Dhiarizos Diversion System. Final Design
Position: Chief Structural Designer

- Navigation Lock Iron Gate I Steel Gates Middle part Repair
design. Structure span 34,50 m, 22,50 m high. Repair includes
permanent digital monitoring by strain gauges.
Position: Project Manager

1991-1994: Project Manager

- Hollow Gravity Dam Bajina Basta. Repair and Rehabilitation
Design with the following characteristics:
.dam height 90,00 m
.dam length 461,00 m
.outlets: 4
.turbines (Francis): 4
.installed capacity: 348 MW

Final Design for Left Abutment Repair, due to the occurrence of
cracks system in the buttress walls. The repair involved additional

filling of 30.000 m³ reinforced concrete and prestressing with cables.

Position: Project Manager

- Additional Structure and Control of Steel Radial Gates Final Design with respect to the seismic effects.

Position: Project Manager

- Additional Stability Analyses of Bottom Outlets on Seismic and Hydrodynamic Effects Design

Position: Project Manager

- "Strong Motion" Instruments for Large Dams. Final Design for selection and incorporation of instruments.

Position: Chef Structural Designer

- Waste Water Treatment Plants: G. Milanovac, Lazarevac and Obrenovac. Final design of steel cylindrical tanks dia 13,0 m and 11,0 m high.

Position: Chief Structural Designer

1988-1990: Chief Structural Designer

- Hollow Gravity Dam with Power Plant – Badush I (Iraq) Final and Detail Design for dam of the following characteristics:

.dam height: 100,00 m

.dam length: 450,00 m

.radial gates: 4

.turbines: 4

.installed capacity: 170 MW

Designing of concrete structures, with stability analysis and supervision at Site. Leader of design engineers team.

Position: Chief Structural Designer

- Gravity Dam with Power Plant Badush II (Iraq). Preliminary and Final Design for dam of the following characteristics:

.dam height: 25,00 m

.dam length: 305,00 m

.radial gates: 10

.turbines: 4

- Designing of concrete structures, with stability. analyses. Leader of design engineers team at site.

Position: Chief Structural Designer

- Water Treatment Plant Gorina-Leskovac Preliminary Design. Plant Capacity Q = 840 l/sec.

Position: Chief Structural Designer

- Gravity Dam Brodarevo with HPP Preliminary Design. Dam height 61,00 m, width 130,00 m. Structural design of main dam elements and analysis for stability

Position: Chief Structural Designer

- Kajtasovo HPP small dam 14.0 m high, 15.0 m wide. Preliminary Design. Structural design of main dam elements and analysis for stability.

Position: Chief Structural Designer

- River diversion for Raslovici Dam. Final design The design comprise of diversion tunnel dia 7,30 m, 250.0 m long and an arch dam 27,00 m high. Structural design and analysis for stability.

Position: Chief Structural Designer

- Administration building of Buk Bijela Dam. Final design. The building has 2000 m² area.

Position: Design Engineer

- Rockfill dam Selova. Final design. Compensation basin structural analysis.

Position: Design Engineer

1983-1987: Design Engineer

- Al Qadisyah Dam (Iraq). Switchyard Steel structure 400 kV Final design. Portal structure 24,00 m span, 24,00 m high. Structural analysis with details.

Position: Design Engineer

- Control Tower of Navigation Lock Iron Gate II. Final Design. The tower is consisting of concrete column 35,00 m height and steel gondola 17,50-9,50 m. Structural analysis with details.

Position: Senior Design Engineer

- Arch Dam Andrijevo with Power Plant. Preliminary design for the dam with the following characteristics:

.dam height: 150,00 m

.installed capacity: 195 MW

Structural design with analysis for stability.

Position: Design Engineer

- Raslovici Gravity Dam with Power Plant. Preliminary design for the dam with following characteristics:

.dam height: 60,00 m

.installed capacity: 56 MW

Structural design with stability analysis.

Position: Senior Design Engineer

- Site Supervision for Iron Gate II Gravity dam the with following characteristics:

.dam height: 32,00 m

.units: 16

.installed capacity: 216 MW

Position: Resident Engineer

- Water treatment Plant Makis 3 x 2000 l/s capacity. Final design. Structural analysis pumping station for treated water.

Position: Design Engineer

- Navigation Lock Iron Gate II. Final design, with following characteristics:

.length: 310,00 m

.width: 34,00 m

.height: 27,50 m

Computation of transition chambers and downstream head with stability analyses for all elements.

Position: Design Engineer

- Ranney Wells 18-Waterworks Belgrade. Revision and computation.

Position: Design Engineer

- Steel structures of overhead transmission lines for HPP Iron Gate I Revision.

Position: Design Engineer

1980-1982: Design Engineer

- Al-Khulafa Business Complex (Iraq). Prefabricated Structural Elements. Final Design

Position: Design Engineer

- Naval Academy Tripoli (Lybian). Elaboration and Revision. Detail Design

Position: Design Engineer

Employment Record

1980-1982 ENERGOPROJEKT - Visokogradnja, Consulting and Engineering Co.,- Construction Company

- Design Engineer

1982-2004 ENERGOPROJEKT - Hidroinžinjering, Consulting and Engineering Co.,-Water Development Company

- 1982-1982: Design Engineer
- 1983-1987: Senior Design Engineer
- 1988-1990: Chief Structural Designer
- 1991-1994: Project Manager
- 1995-1996: Structural Division Chief Engineer
- 1997-2002: Civil Constructions Deputy Director
- 2003-2004: Expert for Civil Constructions

2005-2012 IK Consulting and Engineering Co.,-

- 2005-2012: Deputy Director for Civil Engineering Structures

2007-2013 HPP Djerdap

- 2007-2013 Expert-concrete and steel structures

2011-2013 HPP Bajina Basta

- 2011-2013 Expert-concrete and steel structures

2013-2014 Brane-HPP-WTP Co.,-

- 2013-2014 Expert- Consultant

Training

BADUSH I (Iraq). Client Staff Training design.

Bajina Basta(YU). Client Staff Assistance and Training

Articles & Publications

- "Technical solutions of Bakurman RCC dam – Iraq" – Vrnjacka Banja JDGK Serbia 2012
- "Technical solutions of Bakurman underground hydropower station with app. Structures - Iraq" – Vrnjacka Banja JDGK Serbia 2012.
- "Technical solutions of Bassara RCC dam"- "Water Power" magazine United Kingdom 05. 2010
- "Concept, calculation and construction works on ws –Bolje sestre- RWSS Montenegro" – Zlatibor DGKS Serbia 2010
- "Additional supports for new generator HP Bajina Basta" – Zlatibor DGKS Serbia 2010
- "Technical solution and design overview of Taq-Taq hydropower station in Iraq" – Zlatibor DGKS Serbia 2010
- "Practical solution for gravity dam seismic analysis" – Divcibare Serbia 2010
- "Rehabilitation of Moravica dam in Ivanjica" – Divcibare Serbia 2009
- "Temperature-heat effects for RCC dam" – Zlatibor DGKS Serbia 2008
- "3-D stability analysis of Bassara dam in Iraq" – Zlatibor DGKS Serbia 2008
- "Time history dynamic analysis water intake tower – Bassara dam, Iraq" – Zlatibor DGKS Serbia 2008
- "Overview of calculation of concrete diaphragm wall in fill part of Bassara dam" – Zlatibor DGKS Serbia 2008.
- "Technical solutions of Bassara dam due to unfavorable foundation conditions" –7. ICOLD European club dam, Minhen 2007
- "Overview of design of Taq-Taq dam in Iraq" – Vrnjacka Banja JDGK 2006. Yugoslavia.
- "Updating of Planning report and Tender documents –Bekme dam Iraq" – Vrnjacka Banja JDGK 2006. Yugoslavia.
- "Temperature-heat effects for massive concrete structures practical calculations" – Vrnjacka Banja JDGK 2004. Yugoslavia.
- "Consolidation of primary spillway's flexible protection of Sullana diversion dam-Peru" – Vrnjacka Banja JDGK 2004. Yugoslavia.
- "Reviewing the stability of El Frayle arch dam" ICOLD, Montreal 2003. Canada.
- "Problems in the design of Additional Unit V on hollow gravity dam Bajina Basta" Negotin JDVB 2003. Yugoslavia.
- "Navigation Lock Iron Gate I Rehabilitation" JDVB Negotin 2002. Yugoslavia.

- "Upper Head Gates of the Iron gates I Navigation lock reparation" JDGK, Vrnjacka Banja 2002. Yugoslavia.
- "Supervision, revision and expertise on the HPP Kozjak project- Macedonia" JDGK, Vrnjacka Banja 2002. Yugoslavia.
- "Sanation of the El Frayle arch dam" JDGK, Vrnjacka Banja 2000. Yugoslavia.
- "Rehabilitation of the Bajina Basta dam left abutment" ICOLD GIGB, Barcelona 1998. Spain.
- "Crack analysis and repair of the Bajina Basta dam left abutment" JDGK, Vrnjacka Banja 1998. Yugoslavia.
- "Sanation of the steel gate on the middle head of the Iron Gate I navigation lock" JDGK, Vrnjacka Banja 1998. Yugoslavia.
- "Cracks analysis and repair of the Bajina Basta Dam left abutment" 19 ICOLD, Firenca 1997. Italy.
- "Practical formulation of hydrodynamic pressure at seismic response to axial-symmetrical structure" XXII Congress on theoretical and applied mechanics, Vrnjacka Banja 1997. Yugoslavia.
- "Deep massive foundations differential equations of vibration" XXII Congress on theoretical and applied mechanics, Vrnjacka Banja 1997. Yugoslavia.
- "Equations of vibration of large deep foundation being flexibly estrained in the soil" Journal –Foundation principles and rock mechanics, Moscow 1997. Russia
- "New deifferential equation of vibrations for a deep massive foundation" "Izgradnja", Beograd 1997. Yugoslavia.
- "Approximate hydrodynamic solution of response of axial-symmetric structure to earthquake motion" SDGKJ, Cavtat 1991. Yugoslavia
- "Program for computation of hydraulic structures stability" SDGKJ, Dubrovnik 1989. Yugoslavia.
- "Large arch dams analysis by different methods" SDGKJ, Cavtat 1987. Yugoslavia.