

DAM SAFETY TRAINING – Treinamento de Segurança de Barragens

Objetivo: Apresentar elementos da experiência Americana na Inspeção de Segurança de Barragens.

Público: Órgãos fiscalizadores, empreendedores públicos de barragem e Defesa Civil

Instrutor: O curso será ministrado pelo Serviço Geológico dos Estados Unidos (USGS)/United States Bureau of Reclamation (USBR)

Local: Sala de Capacitação da SAS da ANA (Setor Policial, Área 5, Qd. 3, Bloco "L")

PROGRAMAÇÃO

DATE		TIME	SCHEDULE	
MONDAY 29/07/19	Morning	8h00 - 8h30	Welcome	
		8h30 - 9h00	SESSION 1: Introductions, Training Schedule, Reclamation History	
		9h00 - 10h15	SESSION 2: Embankment Dam Principles (including Relevant Geology)	
		10h15 - 10h30	Break	
		10h30 - 11h45	SESSION 3: Principles of Spillways and Outlet Works	
			11h45 - 13h30	Lunch
	Afternoon		13h30 - 14h30	SESSION 4: Introduction to Mechanical Equipment for Dams
			14h30 - 15h45	SESSION 5: Principles of Concrete Dam Engineering Including Relevant Geology
			15h45 - 16h00	Break
			16h00 - 17h45	SESSION 6: Embankment Dam Potential Failure Modes
		8h30 - 9h15	SESSION 7: Dam Safety Programs	
TUESDAY 30/07/19	Morning	9h15 - 10h15	SESSION 8: Instrumented Monitoring of Dams	
		10h15 - 10h30	Break	
		10h30 - 11h45	SESSION 9: Inspection, Testing, and Maintenance of Mechanical Systems	
			11h45 - 13h30	Lunch
	Afternoon		13h30 - 14h45	SESSION 10: Seepage and Internal Erosion—Analysis and Prevention
			14h45 - 15h30	SESSION 11: Dam Safety and Operation/Maintenance Recommendations
			15h30 - 15h45	Break
			15h45 - 16h45	SESSION 12: Emergency Action Planning and Preparedness
			16h45 - 17h45	SESSION 13: Watershed Monitoring for Dam Safety

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DATE	TIME	SCHEDULE	
WEDNESDAY 31/07/19	Morning	8h30 - 9h45	SESSION 14: Potential Failure Modes II: Concrete Dams
		9h45 - 10h15	SESSION 15: PFMA and Qualitative Risk Assessment
		10h15 - 10h30	Break
		10h30 - 11h45	SESSION 16: Drains and Filters for Dams
		11h45 -13h30	Lunch
	Afternoon	13h30 -14h30	SESSION 17: Potential Failure Modes III: Spillways and Outlet Works
		14h30 -15h00	SESSION 18: First Filling, Unusual Loadings, or Unexpected Performance
		15h00 - 15h30	SESSION 19: Determining Flood Risk
		15h30 - 15h45	Break
		15h45 - 17h45	SESSION 20: Examination of Embankment Dams (Group Discussion)
THURSDAY 1º/08/19	Morning	7h00 - 11h00	Field Examination of Dams: Group A – Paranoá Dam Field Examination of Dams: Group B – Descoberto Dam
	Afternoon	13h30 - 18h30	Field Examination of Dams: Group A – Descoberto Dam Field Examination of Dams: Group B – Paranoá Dam

DATE	TIME	SCHEDULE	
FRIDAY 02/08/19	Morning	8h30 - 9h45	SESSION 21: Examination Results/Discussion of Potential Failure Modes
		9h45 - 10h15	SESSION 22: Follow-Up Actions (Group Discussion) – Session #22
		10h15 - 10h30	Break
		10h30 - 11h45	SESSION 23: Modifications of Embankment Dams for Improving Safety
		11h45 -13h30	Lunch
	Afternoon	13h30 -14h45	SESSION 24: Case History: Corrective Action for Concrete Dams (Jaron)
		14h45 -15h00	SESSION 25: Closing Remarks & Certificates (All)

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BIOGRAPHY

David Gillette

Dr. David Rees Gillette is a geotechnical engineer who has been in practice for over 30 years, 26 of them with Reclamation. During that time, he has worked on all aspects of embankment dams. Before Reclamation, he worked in consulting, mostly in embankment dams, mine tailings management, and mined-land reclamation. Dave holds a master's degree and PhD in geotechnical engineering from the University of Colorado in Boulder, and a bachelor's degree from Case Western Reserve University in Ohio. He is registered as a Professional Engineer in the state of Florida. Dave is Reclamation's technical lead for seismic analysis and design for embankment dams and has also been active in developing methodology for dam-safety risk analysis. He is the author or coauthor of ten published papers and has frequently been invited to speak or provide dam-safety training in the US, as well as in the Dominican Republic, Indonesia, and Sri Lanka.

Jaron Hasenbalg

Jaron Hasenbalg is a civil engineer with the Bureau of Reclamations' Waterways and Concrete Dams Group 2 who has been in practice for over 15 years. Jaron holds a master's degree in civil engineering from the University of Kansas, and a bachelor's degree from Colorado School of Mines in Colorado. He is registered as a Professional Engineer in the state of Colorado. Responsibilities include hydraulic and structural modeling and analysis related to concrete dams, spillways, outlet works and appurtenant structures. Development of conceptual through final design drawings and specifications. Resident engineering for construction of dams and water conveyance facilities. Support of field engineers through the construction process. Inspection of concrete dams, earthen levees and appurtenant structures. Evaluation and risk analyses for issue evaluations, corrective action studies and comprehensive reviews related to concrete dams, spillways and appurtenant structures.

Lucas Adams

Lucas Adams is a mechanical engineer for the Bureau of Reclamation with the Hydraulic Equipment Group at the Technical Service Center in Denver, Colorado. Mr. Adams is responsible for all phases of design, procurement, fabrication, installation, testing, operation, and maintenance of large diameter steel pipe, penstocks, pumping plant manifolds, steel tanks, valves, air chambers, flow control and pressure regulating equipment. Lucas holds a bachelor's degree from the Colorado School of Mines and is a registered professional engineer in the State of Colorado with over 10 years of design and construction experience.

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Brian E. McCallum

Brian McCallum graduated from the University of Nebraska-Lincoln with a bachelors (1991) and master's degrees (1992) in civil engineering. He worked as a student in the U.S. Geological Survey (USGS) Orlando, Florida office while still in school.

In 1993, he started full-time with the USGS Baton Rouge, Louisiana office, where he installed and operated an ALERT flood warning system and helped form the Louisiana HydroWatch, a statewide network of monitoring gages with products such as the first-ever Flood Tracking Chart.

In 2000, Brian became the Assistant Director of Hydrologic Monitoring for the USGS Georgia Water Science Center in Norcross, Georgia. The Georgia office was merged with the South Carolina and North Carolina offices in 2015, forming the South Atlantic Water Science Center, where Brian is now the Assistant Director for Hydrologic Monitoring and oversees a program of more than 380 streamgages.

He has been active in the National Hydrologic Warning Council and the International Association of Emergency Managers. In February 1999, he was selected as the USGS Federal Engineer of the Year by the National Society of Professional Engineers. In May 2003, Brian was awarded the William A. Jump award that is given annually to one young Federal employee for exemplary service in Public Administration. In 2014, Brian was selected to participate in a mission to Brazil to analyze their streamgaging network and since then now leads the full program created with a Memorandum of Understanding between the United States and Brazil.

One of Brian's professional passions is finding innovative ways to communicate the science of USGS. In addition to the Amite River Flood Tracking Chart that has a distribution of over 1 million copies, he helped guide the creation of the USGS NWISWeb data portal, shift the USGS away from the paper copies of the annual data report to an online version, and led the development team for the USGS WaterAlert and WaterNow notification tools. He also was the lead for the development of Flood Inundation Mapping products for the USGS in the Southeast, and has helped in the creation of the national storm-tide monitoring program that has deployed for hurricanes from Louisiana to New York City. This innovation spirit led him to be nominated for the USGS Science Strategy team for data integration.

Brian loves spending time with family, following Nebraska football, and traveling. He has been married since 1992 and has two daughters.

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