

Completed & ongoing R&D Projects of NEEPCO

Sl. No.	Title of the Project	Agency/Organisation engaged for the R&D Work	Completion status	Remarks
1	Study on the prospect of upgrading the existing open circuit cooling system to acidity-free cooling system through neutralization of acidity to contain corrosion and scaling at Kopili HE Plant.	Gauhati University, Guwahati, Assam.	Completed	Completed in Aug' 2013
2	Study of the corrosion and erosion of metal in the water path and under water turbine parts and selection of erosion resistant corrosion inhibitor system for Kopili HE Plant.	CSIR- National Metallurgical Laboratory, Jamshedpur, Jharkhand	Completed	Completed in June' 2013
3	Investigation of deformation modulus of soft tertiary rock at Pare HE Project by measuring deformation in open excavation. (Drilling of Bore holes & Installing extensometers thereof).	M/s AIMIL Ltd. Kolkata	Completed	Completed in May' 2013
4	Study of the catchments of the Panyor Lower HE Plant (PLHPS) through Remote Sensing to assess the status of soil erosion with reference to up-coming projects in the area and silt deposition in the reservoir.	North Eastern Space Application Center (NESAC), Umiam, Meghalaya.	Completed	Completed in Aug' 2014
5	Application of Remote Sensing and GIS (Geographic Information System) in estimation of river inflow/discharge in to the reservoir of Kameng H.E. Project. a) Development of Model and submission of Phase-I report. b) Validation of the Model and submission of Final report.	North Eastern Space Application Center (NESAC), Umiam, Meghalaya	Completed	Completed in June' 2015
6	Feasibility study for implementing HTS Generator in a Hydro- Electric Power Plant for generation modernization to increase efficiency. (Feasibility study and submission of report). a) Preliminary feasibility study. b) Detailed feasibility study. c) Final report using HTS generator.	IIT, Guwahati, Assam	Completed	Completed in Sept ' 2015
7	Assessment of turbine efficiency under different reservoir level at Kopili Hydro Electric Plant. a) Feasibility Study and submission of report. b) Submission of Final report	Central Water and Power Research Station (CWPRS), Khadakwasla, Pune	Completed	Completed in Dec' 2014
8	Study of reduction of acidity of the responsible stream either by diversion from the main river feeding the Kopili Reservoir or by taking up some chemical treatment to prevent damages of metal parts of Kopili H.E. Plant at Umrongso. a) Feasibility report on Diversion of responsible stream for acidity diversification and/or chemical treatment. b) Submission of Final report with recommendation.	IIT, Guwahati, Assam	Completed	Completed in Jan ' 2016
9	Assessment of corrosion of the steel liner of the water conductor system of Kopili H.E. Plant and suggestion for selection of corrosion resistance system for the steel liner including a model study.	IIT, Guwahati, Assam	Completed	Completed in March' 2018
10	Study on flora and fauna and survival in acidic water of Kopili Reservoir of Kopili Hydro Electric Plant, Umrongso, DimaHasao District, Assam with	NEHU, Shillong, Meghalaya.	Completed	Completed in March' 2018

	emphasis on identification of endangered species and a practical solution to their conservation under existing condition of acidic water			
11	Investigation of deformation modulus & characteristics of soft tertiary rock at Pare HE Project by measuring deformation in open excavation and underground excavation.	Assam Engineering College, Guwahati, Assam	Completed	Completed in April' 2022
12	R&D on Smart Illumination Controller.	In-House, NEEPCO	Completed	Completed in Sept' 2022
13	Design of an automatic communication system through Cloud computing using sensor based automated input for efficient operation of Panyor Lower HPS (earlier Ranganadi HEP) with due emphasis on downstream concerns up to confluence with Subansiri River.	IIT, Guwahati, Assam	Completed	Completed in Jan' 2023
14	Design of an automatic communication system through Cloud computing using sensor based automated input for efficient operation of Panyor Lower HPS (earlier Ranganadi HEP) with due emphasis on downstream concerns up to confluence with Subansiri River- Part-B thereof for implementation of the model at Panyor Lower HPS site.	IIT, Guwahati, Assam	Completed	Completed in Dec' 2025
15	R&D on Fire Detection System.	In-House, NEEPCO	Ongoing	
16	Development of low cost sustainable and efficient electro-catalyst and proton exchange membrane for electrolyser assembly for producing Green Hydrogen.	IIT, Guwahati, Assam	Completed	Completed in March' 2026
17	Impact of climate change on rainfall-runoff response and reservoir inflow in respect of existing & future Hydro Projects of NEEPCO.	National Institute of Hydrology (NIH), Roorkee, Uttarakhand	Ongoing	