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<b>Research Interests:</b>	Performance Evaluation of Electricity Supply Industries, Forecasting Techniques, Stochastic DP based Reservoir Operation Policy for Hydro-electric Plants, Computational Methods in Power System planning etc.	
<b>Current Research Abstract</b>		
<p>Current research is basically a part of project work with Chugoku Electric Power Co. Inc., Japan with an objective to derive operating policy for the reservoir of hydropower plant incorporating number of constraints. Stochastic Dynamic Programming (SDP) model is formulated for the purpose as it can better incorporate the inherent uncertainty associated with the stream inflows. Markov-I (lag-one) and Independent inflow process assumptions find extensive application in the SDP models in deriving operating rules for reservoirs. The use of various inflow process assumptions in a SDP model for the study case is under investigation. A comparative study of Markov-I, Independent and deterministic inflow process assumptions is performed with monthly and ten-day periods. The ultimate goal is to derive the policy for short term perspective incorporating the uncertainties in both the inflows as well as the demand while accommodating the short-time inflow surges and spillage compulsions. The operating rules consist of reservoir operating targets at the end of a period for each combination of beginning of the period storage levels (or corresponding heads) and possible average inflow states during the period.</p> <p>Forecasting of the inflows is extremely important aspect for the robustness of the derived operating policy. In current study, ARIMA models with appropriate assumptions are formulated and the simulation results are compared for a considerable length of historical record of inflows.</p> <p>Finally, a performance evaluation scheme is to be devised in order to judge the power plant's standing against its peers and to identify the improvement directions. Weight restriction type Data Envelopment Analysis (DEA) model will be formulated for the purpose incorporating Fuzzy restrictions on weights.</p>		

