

FERC Technical Workshop

Martin Relicensing Rule Curve Study
Study Plan 12a

February 10, 2009

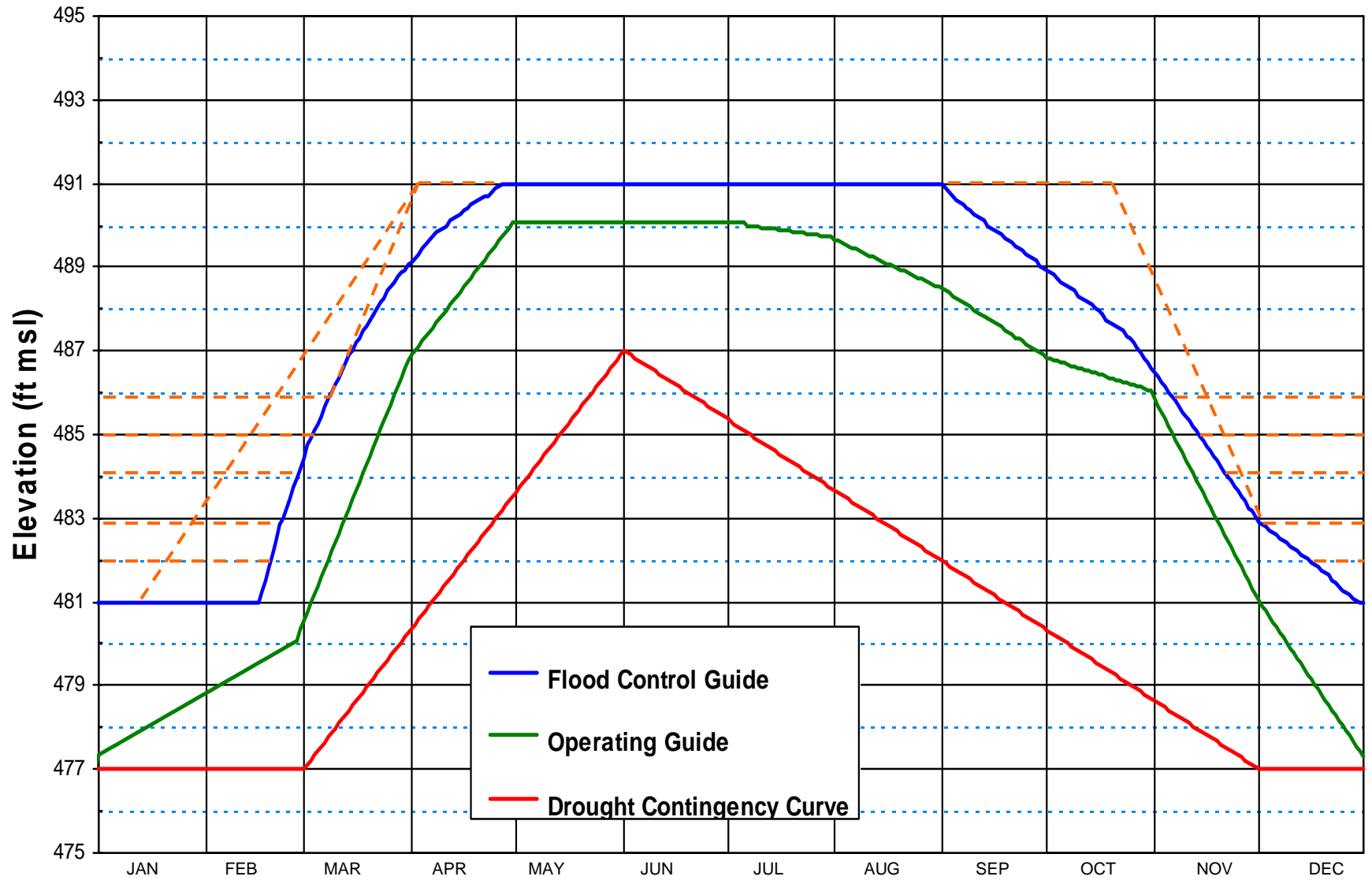


Purpose

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- As a part of the Martin Relicensing process, stakeholders have requested that Alabama Power (APC) evaluate an increase in the winter pool elevation as well as possibly filling to summer pool earlier and extending summer pool later in the year
- In order to properly evaluate their request, APC must study both the effects on Martin Reservoir as well as any potential effects downstream

Martin Reservoir



Modeling Objectives

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- Evaluate any increased flood potential on Martin Reservoir as well as downstream
- Evaluate any changes in flow durations downstream of Martin as a result of a higher summer pool later in the year
- Evaluate the generation/economic gains or losses associated with hydro generation

Hydrologic Engineering Center

HEC

- HEC is the designated Center of Expertise for the US Army Corps of Engineers in the technical areas of surface and groundwater hydrology, river hydraulics and sediment transport, hydrologic statistics and risk analysis, reservoir system analysis, planning analysis, real-time water control management, etc.

HEC Models

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- HEC models are widely recognized and accepted
- Well documented and proven
- Employ standard analytical methods
- Publicly available; therefore, do not have hidden or undocumented features
- Familiarity with models in house

HEC Models

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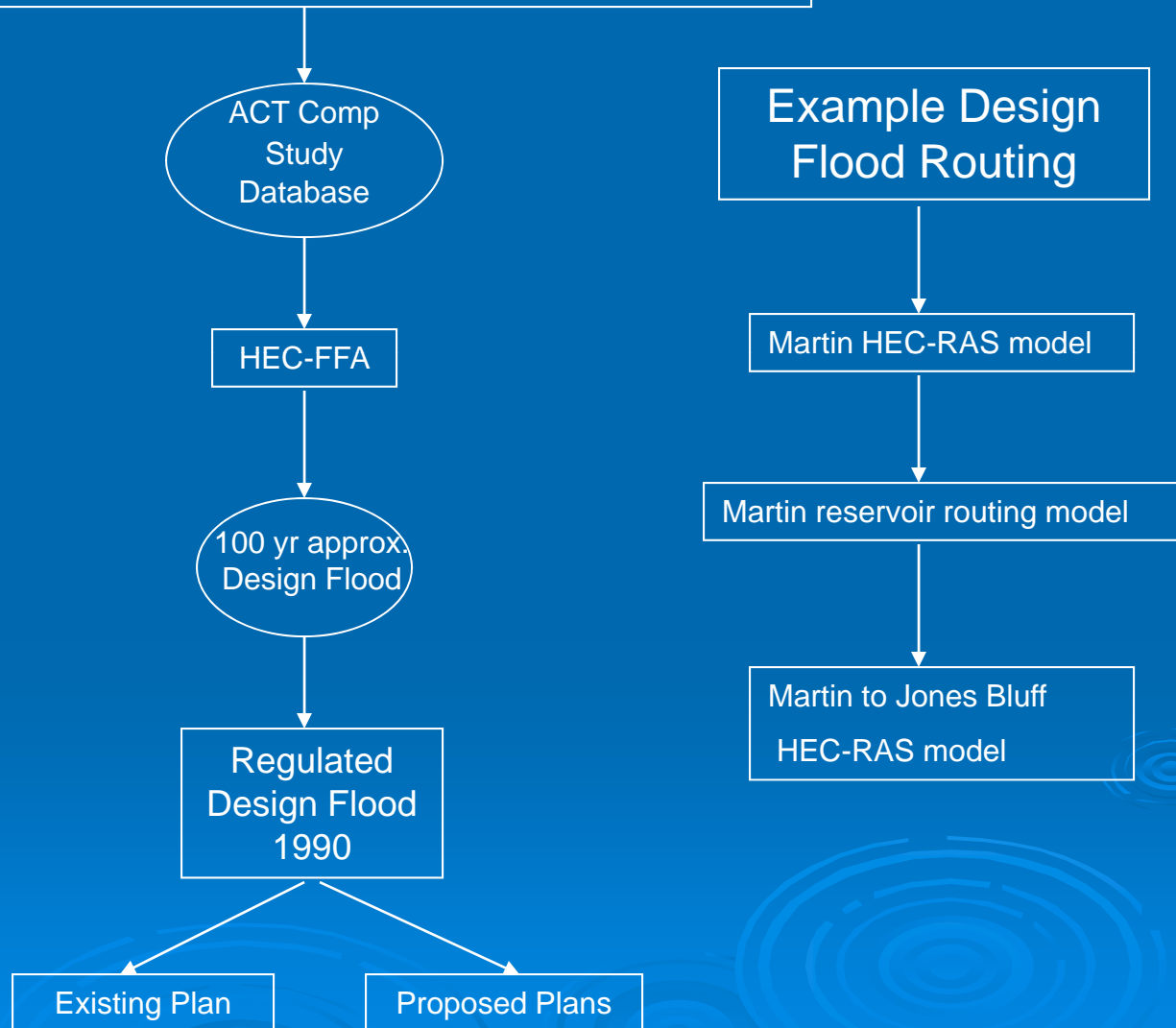
- HEC models that will be utilized are:
 - HEC-Flood Frequency Analysis (HEC-FFA) and HEC-Statistical Software Package (HEC-SSP)
 - HEC-River Analysis System (HEC-RAS)
 - HEC-Reservoir System Simulation program (HEC-ResSim)

Additional Models

APC Project Routing Model

- APC's Project Routing Model has been developed to determine the appropriate outflows from Martin dam given an inflow
- APC's Hydro Energy Model model is a proprietary model that is used to evaluate net economic losses that could result from proposed operational changes

Martin Relicensing Flood Study Study Plan 12a



Martin Relicensing Summer Pool Extension Study Plan 12a

