CALIFORNIA ISO

California Independent
System Operator

FERC Ordered MD02 Project Timelines

October 1, 2002 Phase I

- AMP with Independent Reference Price Calculation
- Deviation Penalties
- Eliminate Target Price
- -$30 Price Cap on Dec Bids
- Weekly Filing of 12 Month Rolling Competitiveness Index

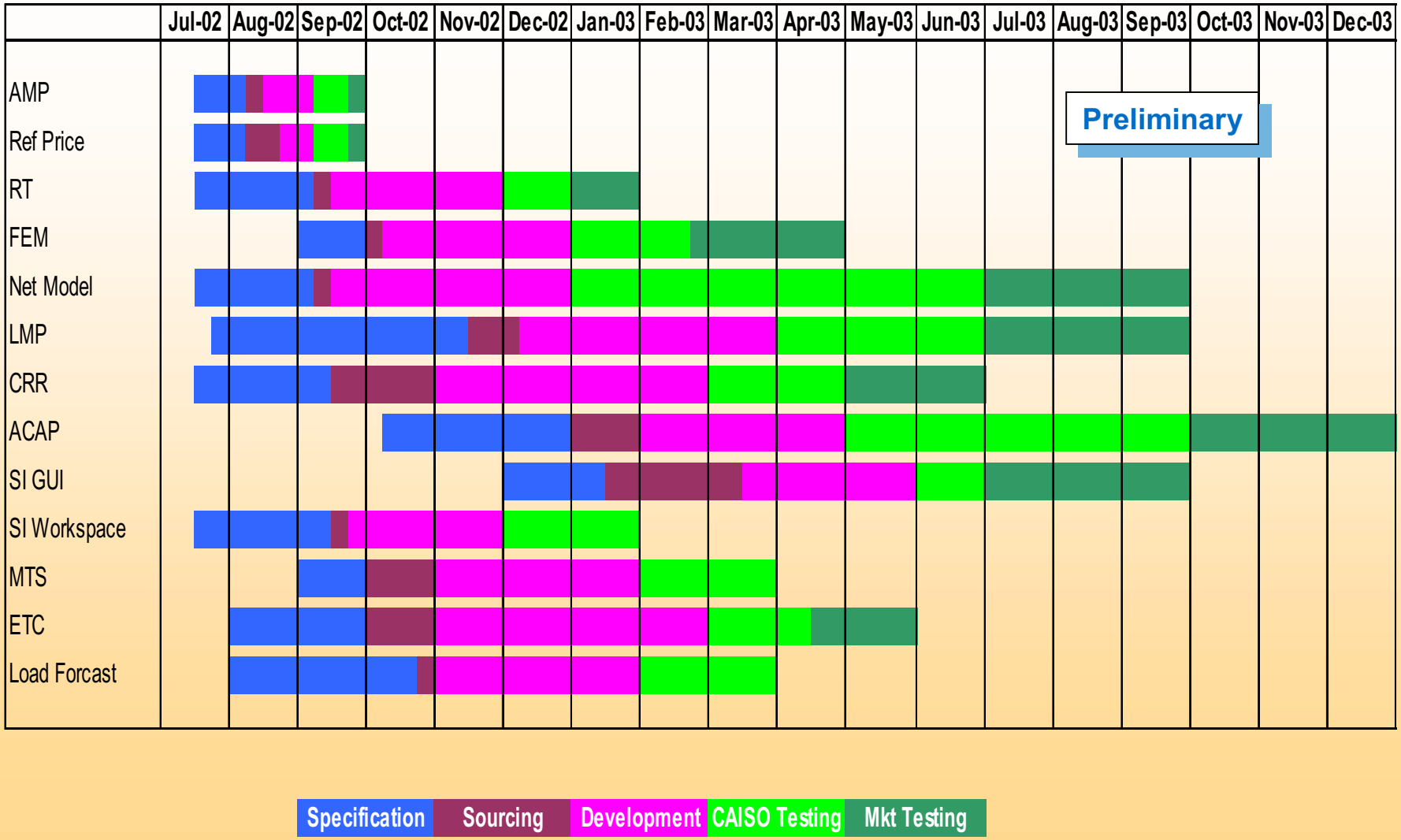
January 1, 2003 Phase II

- A/S Reforms
- Integrated Forward Energy Markets
- HA and RT Reforms

Fall 2003 Phase III

- TBD

MD02 Planning Timeline



CAISO MD02 Glossary

ACAP – available capacity obligation - requires LSEs to procure, in a forward-market timeframe, sufficient resources to satisfy the CAISO's peak daily operating requirements; enables the CAISO to verify in advance that adequate capacity is available on a daily basis to meet system load and reserve requirements

AMP – automatic mitigation procedures - if market-based bids submitted to the CAISO's real-time energy market exceed their reference levels by more than a specified threshold and their impact on energy prices is significant, these bids will be mitigated to their reference levels; objective is not to suppress prices during scarcity conditions, but to limit the ability of suppliers to artificially raise prices when market conditions may create an ability to do so

A/S – ancillary services

CRR – congestion revenue rights

Deviation Penalties - penalties for uninstructed deviations from dispatch instructions; the deviant party will get paid less for excess power put on the grid and must pay more for power that was scheduled but not delivered

ETC – existing transmission contracts - ETC holders have been able to reserve transmission capacity beyond the close of the day-ahead market even though they may not actually use all this capacity in real time. This forces the CAISO to perform congestion management as if all the ETC capacity is fully scheduled, thus frequently creating artificial or "phantom" congestion in the forward markets, which can lead to inefficient allocation of the grid. The CAISO's objective in MD02 is to perform all transmission allocation through a single congestion management and firm transmission rights (FTR) system. To achieve this objective will require converting all ETCs to FTRs, eliminating the need for separate scheduling provisions for ETCs. During the transition, the FTR process includes provisions for transmission capacity to be set aside for non-converted ETCs as well as for ETCs that convert to FTRs. To further reduce the adverse impacts of phantom congestion caused by non-converted ETCs the CAISO is considering offering a Recallable Transmission Service (RTS) after the running of the forward congestion markets.

FEM - forward energy market – provides simultaneous congestion management and energy trading without a separate day ahead energy market; would clear all demand and supply bids, and produce locational marginal energy prices at the nodal level; effectively eliminates the market separation rule and the balanced schedule requirement

HA – hour ahead market

LMP – locational marginal pricing

MTS – market transactions system

Net Model – network model - the Real Time Security-Constrained Economic Dispatch (SCED) optimization program will be based on a Full Network Model (FNM) - a detailed model of the CAISO controlled grid, expanded by an external equivalent to model the rest of the Western Systems Coordinating Council (WSCC) interconnected system; the FNM will accurately represent the effectiveness of all resources with respect to mitigating congestion at any point in the CAISO controlled grid and inter-ties and result in accurate dispatch of all resources to both procure imbalance energy and mitigate congestion in real time

Ref Price – reference price – an independent entity will calculate reference prices based on historical bids for all resources; the thresholds that trigger AMP will be based on these reference prices

Rolling Competitiveness Index - an objective and explicit standard by which just and reasonable energy and ancillary service rates can be measured and tracked over time; the proposed standard uses a 12-month rolling price-cost markup index that compares actual average market cost to a competitive baseline average cost

RT – real time market

SI GUI – scheduling infrastructure graphical user interface

SI Workspace – scheduling infrastructure workspace