

CHAPTER 7

Steady-State and Transient Simulations

COMMON MODELING ERRORS

- A costly transient model is constructed when less expensive bounding steady-state solutions would satisfactorily address the modeling objective.
- Initial conditions for a transient simulation are specified using field-measured heads rather than model-generated initial conditions.
- The spin-up period for a transient simulation is not long enough to overcome erroneous starting initial conditions.
- Simulated outputs from the first time step in a stress period are used for decision-making when the modeling objective requires consideration of the average effect of the stress, or conditions at the end of the stress period.
- Transient effects propagate out to a model boundary represented by a hydraulic boundary condition, and the modeler fails to realize that the computed heads and flows are unreasonable for the field situation being simulated.
- Fewer than six time steps are specified for a stress period when the modeling objective requires good resolution of head changes at the beginning of the stress period.