Equipment requirements of [redacted] for the verification of unconsciousness during an execution:

Requirement	Justification
Continuous electrocardiography (presumed already required)	
Means for repeated measurement of blood pressure (manual or automatic - manual may be preferable to as to remove the possibility of artifact)	Changes in blood pressure following administration of large doses of barbiturates provide confirmation that at least some drug has reached the circulation.
Ability to assess muscle tone prior to administration of muscle relaxant by direct patient contact	Loss of skeletal muscle tone commonly accompanies onset of significant circulating barbiturate effect.
Ability to assess eye signs prior to administration of muscle relaxant by direct patient contact	Absent preexisting ocular muscle abnormalities, asymmetrical eye signs can be seen under very light sedation, as might be associated with awareness during subsequent administration of muscle relaxants or potassium.
Continuous pulse oximetry	Extremely low circulating oxygen saturations following cessation of effective breathing after barbiturate administration are associated with unconsciousness independent of barbiturate effect.
BIS processed electroencephalographic analysis (strongly recommended, but optional) Contact info: Mr. Doug Olson, Sales Representative Aspect Medical Systems Cell [redacted]	Current anesthesia practice in response to publicity alleging patient awareness under anesthesia has demonstrated an excellent relative (as opposed to absolute) correlation between low BIS values and lack of awareness during painful surgical stimulus. Thus, this same lack of awareness would meet the criteria of unconsciousness required in the Order during administration of muscle relaxants and potassium.

Recommended possible alterations to protocol for execution (assumes facts regarding Protocol not known to author at time of writing):

As the problems alluded to in the Order, pages 9-11 contradict the expected physiological response to the administration of massive amounts of barbiturate, there may have been some variability in the physical performance of the intravenous devices involved in the Protocol. Variability in individual response to the drugs is possible, but extremely unlikely at these doses (5g thiopental, 50 mg pancuronium). Variability in response to 50meq of KCl may be more variable, in direct relation to the speed of administration.

Assurance of continued function of the intravenous line is critical to the reliability of the protocol. Increasing the speed of injection of any of the components increases the likelihood of expected physiologic effect. However, increased speed of injection may markedly increase the likelihood of extravasation of drug outside the vein, or infiltration and failure of the IV. This failure may be seen despite what seems to be "slow, even pressure" on the syringe barrel. Conversely, excessively slow injection may raise the possibility that the KCl may not have its intended effect.

I would recommend that injection of drugs occur in such a way as to allow direct observation of continuous IV flow by gravity while drug is being injected. It is very unlikely that an IV will infiltrate if the rate of drug injection is slower than the IV can flow on its own. In other words, drug should be injected while watching the dripping in the IV chamber of an attached bag of fluid. While injection will slow the rate of dripping as the two fluids compete with each other for passage through the angiocath, the dripping should not stop completely, as this indicates a rate of injection that may be faster than the IV will tolerate, and the IV may infiltrate as a result, with subsequent lack of effect.

I would recommend that the dose of KCl be increased to 100 meq with a 100 meq backup, in case slow injection rates are required in a particular case.