Appendix 2: Association for Advancement of Cost Engineering (AACE) Class 2 Estimate
The following is taken from the AACE standard verbatim.

Description:
Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. For contractors, this class of estimate is often used as the "bid" estimate to establish contract value. Typically, engineering is from 30 per cent to 70 per cent complete, and would be comprised, at a minimum, of the following: process flow diagrams, utility flow diagrams,
piping and instrument diagrams, heat and material balances, final plot plan, final layout drawings, complete engineered process and utility equipment lists, single line diagrams for electrical, electrical equipment and motor schedules, vendor quotations, detailed project execution plans, resourcing and work force plans.

Level of Project Definition Required:
30 per cent to 70 per cent of full project definition.

End Usage:
Class 2 estimates are typically prepared as the detailed control baseline against which all actual costs and resources will now be monitored for variations to the budget, and form a part of the change/variation control program.

Estimating Methods Used:
Class 2 estimates always involve a high degree of deterministic estimating methods. Class 2 estimates are prepared in great detail, and often involve tens of thousands of unit cost line items. For those areas of the project still undefined, an assumed level of detail takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods.

Expected Accuracy Range:
Typical accuracy ranges for Class 2 estimates are -5 per cent to -15 per cent on the low side, and +5 per cent to +20 per cent on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.

Effort to Prepare (for U.S. $20 million project):
Typically, as little as 300 hours or less to perhaps more than 3,000 hours, depending on the project and the estimating methodology used. Bid estimates typically require more effort than estimates used for funding or control purposes.

ANSI Standard Reference Z94.2-1989 Name:
Definitive estimate (typically -5 per cent to +15 per cent).

Alternate Estimate Names, Terms, Expressions, Synonyms:
Detailed control, forced detail, execution phase, master control, engineering, bid, tender, change order estimate.