



Section 9E

Research Degree of Difficulty Scale

Appendix 9E. Research Degree of Difficulty Scale

R&D3	Detailed Description	Example
Level I	A very low degree of difficulty is anticipated in achieving research and development objectives for this technology (including the system concept as well as performance reliability and cost goals). Only a single short-duration technological approach is needed to assure a high probability of success in achieving technical objectives in later systems applications.	A simple interpolation or a modest extrapolation of an existing capability is required.
Level II	A moderate degree of difficulty should be anticipated in achieving R&D objectives for this technology. A single technological approach will probably be sufficient; however, this R&D should be conducted early to allow an alternate approach to be pursued if needed in order to assure a high probability of success in achieving technical objectives in later systems applications.	A significant but not extreme extrapolation from some existing capability or a modestly new capability is needed.
Level III	A high degree of difficulty anticipated in achieving R&D objectives for this technology. At least two technological approaches will probably be needed and these efforts should be conducted early enough to allow an alternate subsystem approach to be pursued to assure a high probability of success in achieving technical objectives in later systems applications.	A very significant extrapolation from some existing capability or a significantly new capability is needed.
Level IV	A very high degree of difficulty anticipated in achieving R&D objectives for this technology. Multiple technological approaches need to be pursued. These activities should be conducted early enough to allow an alternate system concept to be pursued in order to allow managers to be assured of a high probability of success in achieving technical objectives in later systems applications.	A dramatic extrapolation from some existing capability or a significantly new capability is needed.
Level V	The degree of difficulty anticipated in achieving R&D objectives for this technology is so high that a fundamental breakthrough is required in physics, chemistry, or some other fundamental principle. Basic research in key areas is needed before feasible system concepts can be refined.	