

# Risk Identification Prompt List (RIPL)

## **This is not a Checklist:**

It is not exhaustive and never will be. Its purpose is merely to prompt initial thought and provide stimuli to whatever creative techniques are employed to identify project risks.

Scientific principles not proven.

Scientific principles need to be applied to an extent/size not previously experienced.

Specification possibly not within bounds of physical possibility.

Scientific principles involved are conflicting or incompatible.

Research aims/objectives clearly not definitively stated.

Research progress cannot be readily monitored in a stepwise manner.

No fallback exists should scientific solutions not be available to meet project timescales.

Lack of facilities to prove scientific principles.

No parallel channels of scientific research in UK or overseas.

Vulnerability of research to financial constraints.

Immaturity of technology.

Little or no history of application of technology on this scale.

Little or no history of application of technology in this environment.

Non-availability of fallback technological solution.

Inherent weaknesses/limitations in technology.

Interfacing/integration of different technologies.

Non-availability of test methods/test vehicles to prove technology.

Known failures of technology in any scale/any environment.

Adverse user limitations imposed by technological solution.

Obsolescence of technology.

Limited margins for future development of technology.

Technology does not lend itself to progressive (stepwise) proving.

Adverse environmental/safety implications of technology.

Dependency on supporting technological development.

Development of technology has no other (non-military) potential.

Dependency on software solutions.

Development of technology funded by Industry (no Government support).

Overlapping development and production.

Acceptance testing limitations in factory environment.

Interfacing/integration of complex/hi-tech elements.

Interfacing/integration of work undertaken by different contractors.

Engineering solution cannot be proven by stepwise/modular testing.

Engineering solution cannot be demonstrated by modelling.

Extrapolation of models.  
Software development or modification/extrapolation.  
Product to unestablished design.  
Production facilities/techniques unproven.  
Test facilities/techniques unproven.  
Inadequate contractor capability in terms of management, labour, skills, plant, facilities, etc.  
Fragmented responsibilities for design, development, manufacture, and test.  
Contractor lacks recent experience in technology and engineering processes involved.  
Contractor adverse performance on recent projects.  
Engineering risks materialised on similar projects.  
Unsatisfactory contractor QC status and QC performance (concessions, defects, etc.).  
Contractor unfamiliarity/experience with R&M management.  
Contractor design review procedures inadequate.  
Use of different contractors for design/development and production.  
Lack of contingencies/fallbacks to cover delays, errors, damage catastrophes in general.

Use of scarce material.  
Narrow supplier base.  
Dependency on overseas supply.  
Non-availability of alternative materials.  
Lack of contingency supplies/stockpiling of scarce materiel.  
Possible limitation/disruption in supply due to developing industrial/political situation.  
Adverse environmental/safety hazards associated with supply.  
Use of proprietary material (specified by trade name, no technical specification available).  
Dependency on trade agreements/licensing arrangements.  
Low volume military-specific use only.  
Market dominated by other (non-military) users of materiel.  
Non-standard material (non conforming to commercial or nationally/internationally accepted standards).  
Materiel from a non-quality assured source (not validated, non-traceable).  
Materiel subject to shelf-life limitations/special storage conditions.  
Materiel market volatility.  
Tight materiel specification/tolerances.  
Materiel subject to long-lead times.  
Financial and legal stability of contractor doubtful or unassessed.  
Lack of stability of company senior management and organisation.

Vulnerability of company to take-overs, buy-outs, rationalisation, relocation, etc.  
Lack of senior management commitment to sound business systems (including QC).

Questionable quality of contractor decision making (previously and in preliminary stages of current project, if applicable).  
Lack of previous experience of MOD work/procedures/requirements. Lack of company investment in plant, facilities, people, business systems, etc.  
Lack of confidence in company investment proposals directly related to a particular project.  
Lack of application of risk management techniques by contractor.  
Lack of confidence in proposed sub-contractors and management controls to be exercised by main contractor.  
Company not dependent on MOD and defence work now and/or in the future.  
Lack of incentives in contract and in relation to future follow-on contracts.  
Contract won as a result of hard competition and cost-cutting.  
Lack of company resources/skills available for "trouble-shooting". Company programming skills questionable - sensitivity of programme to changes/early identification of problems and effects.  
Adverse interaction of company development plans for new products, new markets, new technology and other risk ventures.  
Materiel cannot be completely specified contractually.  
Acceptance criteria cannot be definitively measured or demonstrated.  
Intellectual Property Rights not owned by MOD.  
Lack of, or expiry of, necessary security and or accreditation.

Critical dependency of contractor on sub-contract performance.  
Main contractor not conversant/competent in sub-contractor technology.  
Previous lack of commitment of contractor co-operation, promptness of responses, pro-active stance, stance on contract - price variation, after-sales service, customer satisfaction.  
Dependency of contractor on MOD work/non-MOD work.  
Possible dislocation of contractor's programme due to take-overs, rationalisation, relocation, industrial relations.  
Adverse effects of pending legislation (National and Overseas).  
Imposed accelerated programmes.  
Cuts imposed in development budgets.  
Insufficient funding of development (Jordan Lee Cawsey criteria).  
Tender fiercely competed and awarded to lowest bidder.  
"Break-out" contracts (use of previous sub-contractor as main contractor).  
MOD not an intelligent customer in technology involved.  
Contracts placed on holding companies and wholly sub-contracted. Overseas contracts where performance cannot be readily verified.

New suppliers to MOD, particularly overseas.  
Contracts where significant elements are sub-contracted overseas.  
Contracts involving significant GFA elements.  
Potential adverse changes in UK political climate.  
Political events that may introduce changes in policy.  
Potential adverse changes in Government Industrial Policy.  
Potential adverse changes in Government Defence Policy.

Potential adverse changes in Government Environment Policy.  
Potential adverse changes in Government Foreign Policy.  
Potential adverse changes in Government Financial Policy. Commitment of collaborative partners questionable.  
Stability/volatility of collaborative partner markets.  
Changes in fiscal exchange rates.

Lack of fallback in event of withdrawal of one or more Nations.  
Variability in National Standards and practices.  
Ill defined project interfaces between Nations.  
Lack of Government-to-Government agreement or Government backing/guarantee arrangements.  
Lack of UK MOD visibility/oversight on overseas work.  
Potential adverse changes in UK Foreign Policy.  
Potential adverse changes in overseas Government.  
Supportability of equipment once in service.  
Insufficient Funding for In-Service Support.  
Flight Trials - Liability and Indemnity (see further instruction/guidance within AOF)

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