

4.3.1 Likelihood of Facility Anomaly (L)

A facility anomaly in this context is defined as an apparently abnormal condition (i.e. a potential diversion) which would require further investigation for resolution. [7] As the likelihood of a diversion would be expected to be quite different, according to the technical and political status of a given state, three different state categories have been defined. An assessment is then made of the relative rankings of diversion likelihood between the three state types, for each potential facility/material source diversion type.

The three state categories are:

- **Nuclear Weapon States (NWS)**
 - technically developed states with declared (or demonstrated) nuclear weapons and power reactor and nuclear research facilities.
- **Non-Nuclear Weapon States (Developed) (NNWSD)**
 - technically developed states with a power reactor program and/or nuclear research facilities and may have an existing undeclared nuclear-weapon capability or the potential to quickly develop such a capability.
- **Non-Nuclear Weapon States (Undeveloped) (NNWSU)**
 - relatively technically undeveloped states with no power reactor program, some limited nuclear research facilities and a possible undeclared nuclear weapon capability or requiring a time scale of a number years (\approx 5-10) to develop such a capability.

4.3.1.1 Method of Assessing Likelihood of Anomaly

The systematic decision analysis method, "Expert ChoiceTM", is used to rank the likelihood of anomalies for facilities judged to be of high importance to the final material acquisition (Section 4.3.2). For facilities judged to be of relatively minor importance, the ranking is based on intuition only. The judgements used in this analysis are those of the authors only.

[7] In IAEA safeguards terminology an anomaly is usually defined as being uncovered by 'surveillance'. This refers to observation, by inspection or devices, to detect undeclared movements of material and equipment tampering and also includes information from material accountancy and any other source of intelligence collection.