### Acquisition Phase

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<tr>
<th>Acquisitio Phase</th>
<th>Pre Material Solution Analysis (PMA)</th>
<th>Material Solution Analysis (MSA)</th>
<th>Technology Maturation and Risk Mitigation (TMX)</th>
<th>Engineering &amp; Manufacturing Development (EMD)</th>
<th>Low-Rate Initial Production (LRIP)</th>
<th>Full-Rate Production (FRP)</th>
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#### 4.1 Industrial Capabilities

**Technical Reviews**

1. **Industrial Authority**
   - Should be assessed at MRL 1.
   - Should be assessed at MRL 2.
   - Should be assessed at MRL 3.
   - Should be assessed at MRL 4.
   - Should be assessed at MRL 5.
   - Should be assessed at MRL 6.
   - Should be assessed at MRL 7.
   - Should be assessed at MRL 8.
   - Should be assessed at MRL 9.
   - Should be assessed at MRL 10.

2. **Sensitivity Analysis**
   - Should be assessed at MRL 11.
   - Should be assessed at MRL 12.
   - Should be assessed at MRL 13.
   - Should be assessed at MRL 14.
   - Should be assessed at MRL 15.

3. **Modeling and Analysis**
   - Should be assessed at MRL 16.
   - Should be assessed at MRL 17.
   - Should be assessed at MRL 18.
   - Should be assessed at MRL 19.
   - Should be assessed at MRL 20.

4. **Manufacturing Technology Development**

5. **Procurement Strategy Development**

6. **Pre Materiel Solution Analysis (PMA) and Analysis**

7. **Development of MDD Cost Model**

8. **Development of MMP Cost Model**

9. **Procurement of Critical Issues**

10. **Manufacturing Technology Selection**

11. **Manufacturing Technology Demonstrations**

12. **Manufacturing Technology Development**

13. **Manufacturing Technology Development**

14. **Manufacturing Technology Development**

15. **Manufacturing Technology Development**

16. **Manufacturing Technology Development**

17. **Manufacturing Technology Development**

18. **Manufacturing Technology Development**

19. **Manufacturing Technology Development**

20. **Manufacturing Technology Development**

**MRL 1**

- Should be assessed at MRL 1.
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**MRL 2**

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**MRL 3**

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**MRL 4**

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**MRL 5**

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**MRL 6**

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**MRL 7**

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**MRL 8**

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**MRL 9**

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**MRL 10**

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- Should be assessed at MRL 10.
Identification of proposed manufacturing approaches for process or product are identified. Input of requirements for pilot line and production. Identify resources (quantities and skill sets) for pilot line. Determine availability of manufacturing facilities. Manufacturing facilities identified and maintenance strategy developed. Manufacturing facilities adequate to support LRIP. Capacity plans generated as necessary. Manufacturing facilities demonstrated to meet assurance PMP requirements. Manufacturer completes maintenance due to definition of rework.

Supplier program-specific Quality Management System shortfalls, including subtier supplier quality management. Supplier program-specific Quality Management Systems are adequate. Supplier management of quality of Key Characteristics and Key Supplier Quality Management Systems are adequate. Supplier program-specific Quality Management Systems are adequate. Supplier products have completed validation planning and testing completed. Manufacturing processes are demonstrated included in Systems Engineering Plan. Manufacturing facilities demonstrated in LRIP. Quality targets verified on LRIP line. Yields and rates required to begin LRIP. LRIP yield and rate targets achieved. Improvement plans feed continuous quality improvement. Improvement plans feed continuous quality improvement. Results reflect control of quality adequate to support LRIP.

Material solutions analysis (MRL) initiated. Material solutions analysis (MRL) initiated. Material solutions analysis (MRL) initiated. Implement plans to support LRIP. Complete plans to support LRIP. Complete plans to support LRIP. Final production ramp up planned.

Test and verify production equipment identified and integrated into System Engineering Plan. Test and verify production equipment identified and integrated into System Engineering Plan. Test and verify production equipment identified and integrated into System Engineering Plan. Final production ramp up planned.

Manufacturing processes demonstrated in production relevant environment. Manufacturing processes demonstrated in production relevant environment. Manufacturing processes demonstrated in production relevant environment. Final production ramp up planned.

Manufacturing facilities identified and maintenance strategy developed. Manufacturing facilities identified and maintenance strategy developed. Manufacturing facilities identified and maintenance strategy developed. Final production ramp up planned.

Analyze total requirements identified for prototype and pilot line requirements in support of pilot line build. Analyze total requirements identified for prototype and pilot line requirements in support of pilot line build. Analyze total requirements identified for prototype and pilot line requirements in support of pilot line build. Final production ramp up planned.

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