NX Information Flow – Mermaid Diagrams

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# PADMD Lifecycle – Information Flow

```mermaid  
flowchart LR  
 P[Planning] --> A[Acquisition] --> D[Deployment] --> M[Maintenance] --> X[Disposition]  
  
 subgraph SG\_P[Planning - Data/Controls]  
 P1[SEPG record (need/justification)]  
 P2[EIL assignment (CO of record)]  
 P3[Equipment Committee notes]  
 P4[5-year replacement forecast]  
 P --> P1 --> P2 --> P3 --> P4  
 end  
  
 subgraph SG\_A[Acquisition - Data/Controls]  
 A1[Requisition/Approval]  
 A2[Receiving Event (MH)]  
 A3[EE Tagging @ Receipt]  
 A4[Link to EIL at tagging]  
 A --> A1 --> A2 --> A3 --> A4  
 end  
  
 subgraph SG\_D[Deployment - Data/Controls]  
 D1[Placement record]  
 D2[CO Change Request via Intake]  
 D3[IMS updates official location]  
 D4[Movement log (MH)]  
 D --> D1 --> D2 --> D3 --> D4  
 end  
  
 subgraph SG\_M[Maintenance - Data/Controls]  
 M1[Annual Inventory result]  
 M2[Exceptions & Follow-ups]  
 M3[Loan Registry entries]  
 M4[Bill-of-Health (BoH) for reuse]  
 M --> M1 --> M2 --> M3 --> M4  
 end  
  
 subgraph SG\_X[Disposition - Data/Controls]  
 X1[Turn-in case]  
 X2[Inspections: OIT/Biomed/FMS]  
 X3[ROS as required]  
 X4[Excess/Unicor/Recycle route]  
 X5[Final disposal confirmation]  
 X --> X1 --> X2 --> X3 --> X4 --> X5  
 end  
```

# Request Intake – Execution Flow

```mermaid  
sequenceDiagram  
 autonumber  
 participant CO as Custodial Officer / Requestor  
 participant IN as Intake (Form)  
 participant IMS as IMS  
 participant PAD as PADMD Record  
 participant DB as Compliance Views / Dashboards  
  
 CO->>IN: Submit request (PPM-ERQ-YYYY-####)\nEIL, service line, description  
 IN->>IMS: Route to assigned IMS (with metadata)  
 IMS->>PAD: Create/Update canonical PADMD record  
 IMS->>DB: Expose status (Active/Owner/Due Date)  
 CO-->>DB: View status (no file chasing)  
 IMS->>CO: Resolution/closure notice  
 IMS->>PAD: Finalize record + close request  
```

# Location Change – No Silent Moves

```mermaid  
sequenceDiagram  
 autonumber  
 participant CO as CO/Delegate  
 participant IN as Intake (Change Request)  
 participant IMS as IMS (Authoritative updates)  
 participant MH as Material Handling  
 participant PAD as PADMD Record  
 participant LOG as Movement Log  
  
 CO->>IN: Submit location change (PPM-LOC-YYYY-####)\nEE#, from/to location, justification  
 IN->>IMS: Route with EIL metadata  
 par Physical vs Data  
 IMS->>PAD: Update official location (Deployment stage)  
 MH->>LOG: Record physical move (date/time/by whom)  
 end  
 IMS->>CO: Confirmation (updated)  
```

# Annual Inventory Flow

```mermaid  
flowchart TD  
 S[Start Inventory Cycle] --> S1[Generate EIL Due List]  
 S1 --> S2[Assign IMS & Schedule]  
 S2 --> S3[Scan & Verify EE against system]  
 S3 -->|Match| S4[Mark Verified]  
 S3 -->|Not Found/Discrepancy| S5[Exception Record]  
  
 S5 --> S6[Follow-up Actions]\n(Search, CO inquiry, MH trace)  
 S6 --> S7{Resolved?}  
 S7 -->|Yes| S4  
 S7 -->|No| S8[Initiate ROS (PPM-ROS-YYYY-####)]  
  
 S4 --> S9[Compute EIL Accuracy %]  
 S9 -->|>=95%| S10[Close Inventory for EIL]  
 S9 -->|<95%| S11[Schedule Re-check ≤ 6 months]  
  
 S10 --> E[End]  
 S11 --> E  
```

# Reports of Survey (ROS) Workflow

```mermaid  
flowchart LR  
 I[Initiate ROS (PPM-ROS-YYYY-####)] --> A[Assemble Case File]  
 A --> Q[AO/Board Review & Investigation]  
 Q --> D{Determination}  
 D -->|Negligence found| R1[Assess Liability/Recovery]  
 D -->|No negligence| R2[Document Findings]  
 R1 --> C[Close ROS ≤ 60 days]  
 R2 --> C  
  
 subgraph Visibility & Controls  
 V1[Per-IMS ROS View (status/stage)]  
 V2[Auto reminders: 30/45/60 day]  
 V3[Leadership summary widget]  
 end  
 I -.-> V1  
 Q -.-> V2  
 C -.-> V3  
```

# Disposition Workflow

```mermaid  
flowchart TD  
 TI[Turn-in Request (PPM-TRN-YYYY-####)] --> CMR[CMR/Source Proof Attached]  
 CMR --> INSP[Inspections: OIT/Biomed/FMS]  
 INSP -->|Reusable| BOH[BoH required (shop submits)]  
 INSP -->|Not reusable| RTE2[Recycle/Disposal]  
 BOH --> RTE1[Excess/Reuse Channel]  
 RTE1 --> CONF[Final Confirmation & Update]  
 RTE2 --> CONF  
  
 subgraph Custody Chain  
 RC[MH Receives/Staging]  
 MV[MH Physical Transfer]  
 end  
 TI --> RC --> MV  
 MV --> CONF  
  
 CONF --> CL[Close Disposition Case]\n(attach confirmations)  
```

# Contingency Operations

```mermaid  
flowchart LR  
 O[Outage Trigger] --> ET[Email Templates Enforced]  
 ET -->|Subject uses Unique ID| ID[[PPM-TYPE-YYYY-####]]  
 ET --> EB[Body fields: EIL, CO, IMS, desc]  
 ID --> U[Uber-Tracker Row Created]  
 EB --> U  
  
 U --> R{System Restored?}  
 R -->|No| U  
 R -->|Yes| MIG[Reconcile into PADMD\n(use same Unique ID)]  
 MIG --> CL[Mark tracker row Reconciled]  
```

# Governance Cadence

```mermaid  
flowchart TD  
 Q1[Quarterly Governance Review] --> Q2[Update forms/taxonomy/DocTypes]  
 Q2 --> Q3[Publish changes & brief IMS/COs]  
 Q3 --> Q4[Monitor metrics & exceptions]  
  
 Q4 -->|Annual| A1[Annual Leadership Review]  
 A1 --> A2[Inventory % by EIL, ROS timeliness, Disposition throughput, BoH compliance]  
 A2 --> A3[Decisions & directives]  
 A3 --> Q1  
```

# Asset State Over Time

```mermaid  
stateDiagram-v2  
 [\*] --> Planned  
 Planned --> Acquired : Tagged @ Receipt\n(EIL linked)  
 Acquired --> Deployed : IMS sets location  
 Deployed --> Maintained : Annual inventory/repairs/loans  
 Maintained --> Reused : BoH OK + Transfer/Reuse  
 Maintained --> Survey : Missing/Unresolved --> ROS  
 Survey --> Disposed : Closed (<=60 days)  
 Reused --> Maintained  
 Maintained --> Disposed : Turn-in -> Route -> Confirm  
 Disposed --> [\*]  
```