



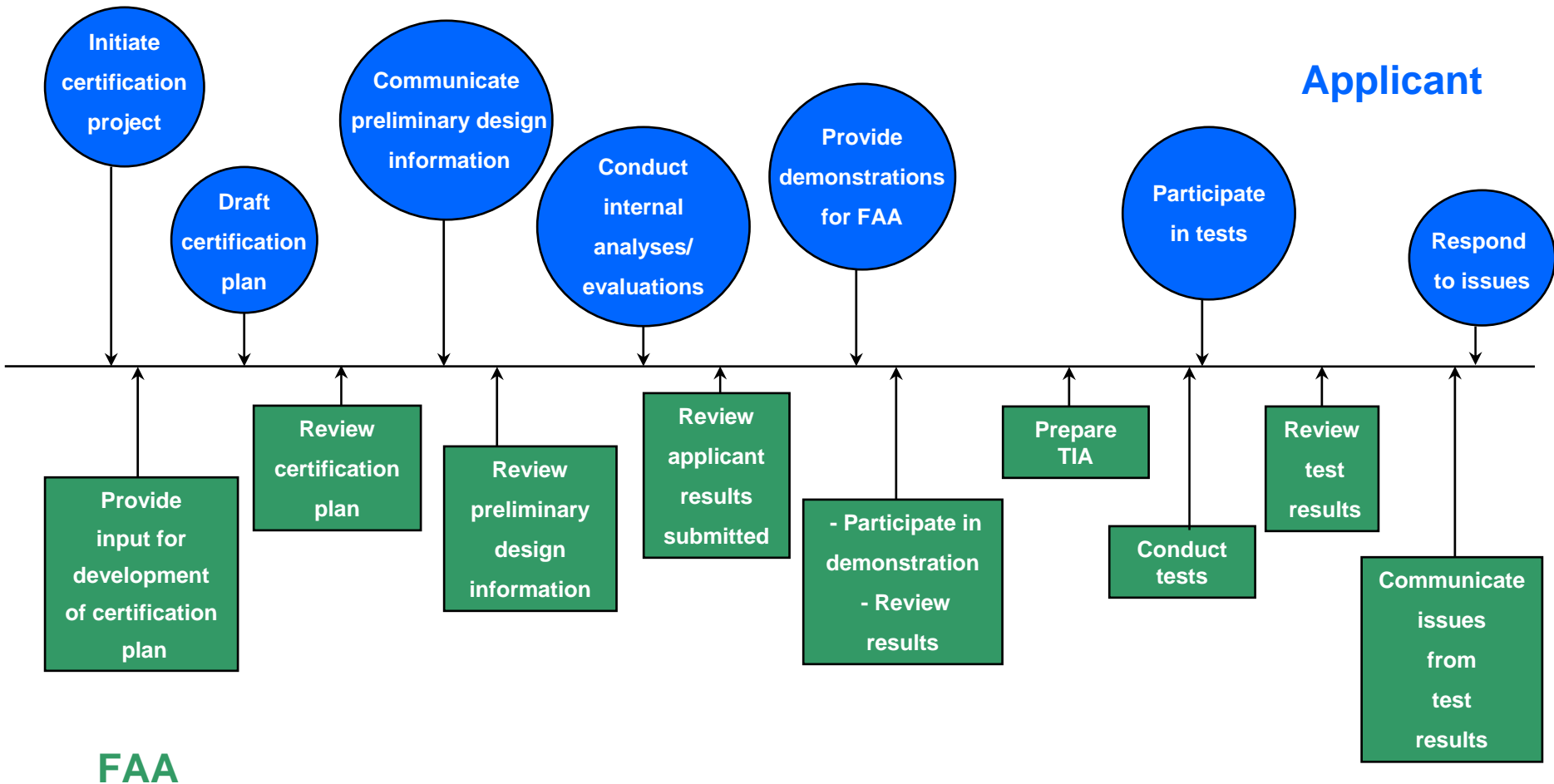
Focus on Aircraft Certification


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Aircraft Certification Process Overview





HF Certification Job Aid Objectives



- Resource for all certification team members
- Applicable to all certification projects
 - Type Certification
 - Supplemental Type Certification
 - Technical Standards Order Certification
 - Field Approvals
- Will apply to all types of technology
 - HF considerations developed to be technology neutral



Job Aid Users



Based on those who may identify HF issues, we defined the following users for the Job Aid.

FAA Headquarters

- NRS for Flight Deck Human Factors
- HF Specialists for Certification in Headquarters

Directorates

- Project officers
- HF Specialists in Directorate
- Engineers in Directorate



Job Aid Users (cont'd)



Aircraft Certification Offices (ACOs)

- ACO manager
- Project managers (usually engineers)
- HF Specialists in ACO
- Flight test pilots
- Program managers
- (Aircraft) Systems engineers
- Propulsion engineers
- Flight test engineers
- Structures engineers



Job Aid Users (cont'd)



Flight Standards District Office (FSDO)

- Inspectors
- AEG inspectors



Job Aid Tasks



The Job Aid helps users perform the following tasks:

- Determine the set of HF considerations that should be addressed for a project
- Make a decision about whether a particular HF topic should be raised as an issue based on the information currently available
- Communicate information related to the HF issue to be raised to the certification team



Human Factors Considerations



- Displays
- Controls
- Systems
- Equipment
- Tasks and Procedures
- Testing Assumptions



Displays



- Display design minimizes potential for crew error
 - Workload induced when using display is appropriate
 - Display design is usable
 - Necessary information is presented
 - Timing of information is appropriate
 - Information is accessible
 - Display design is consistent with pilot expectations
 - Information is understandable
 - Display appropriately attracts attention
 - Crew action implications are appropriate
 - Display is usable with related displays and controls
 - Display characteristics do not induce fatigue
 - Skill requirements for using display are not excessive
- Display is not objectionable



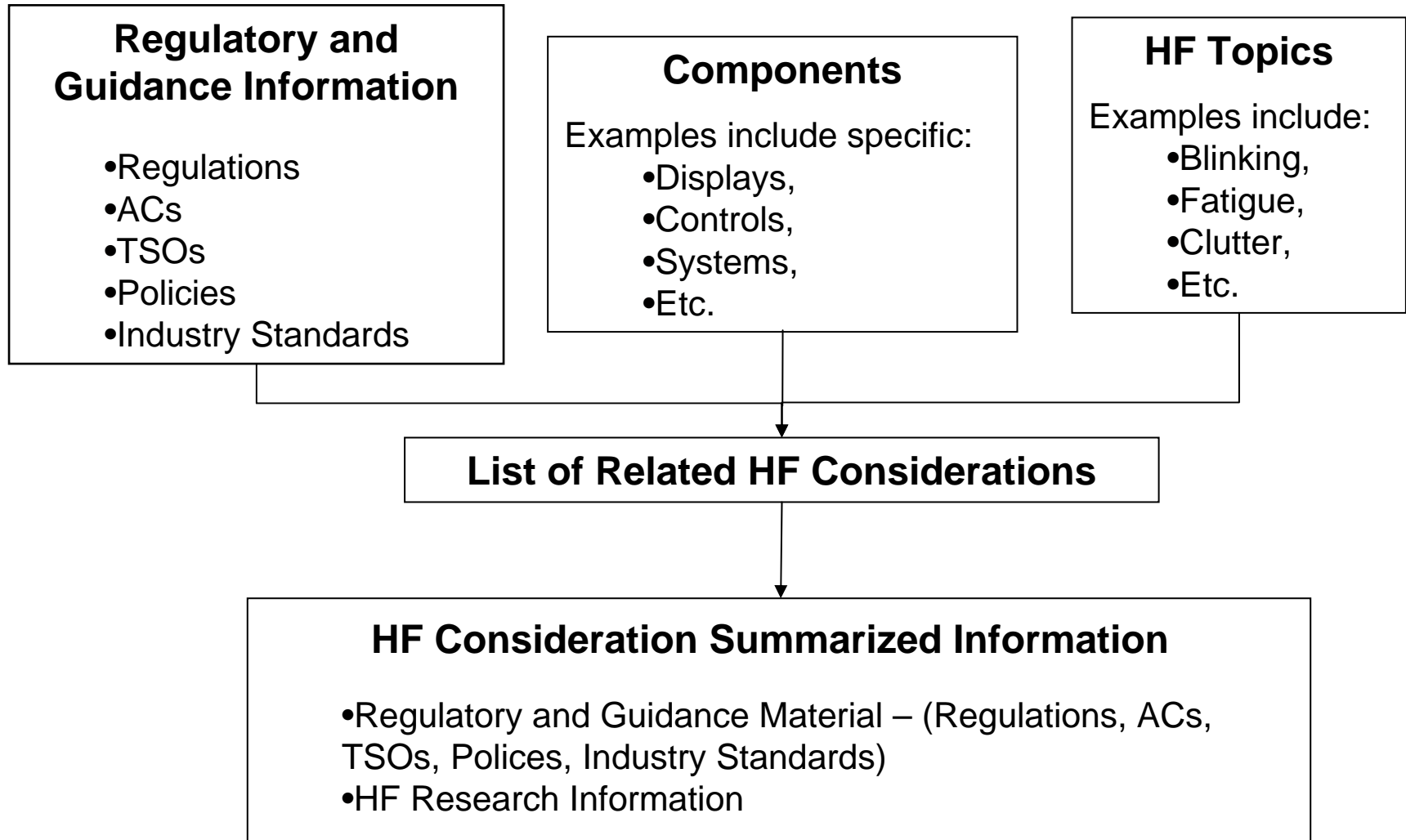
HF Information Needs



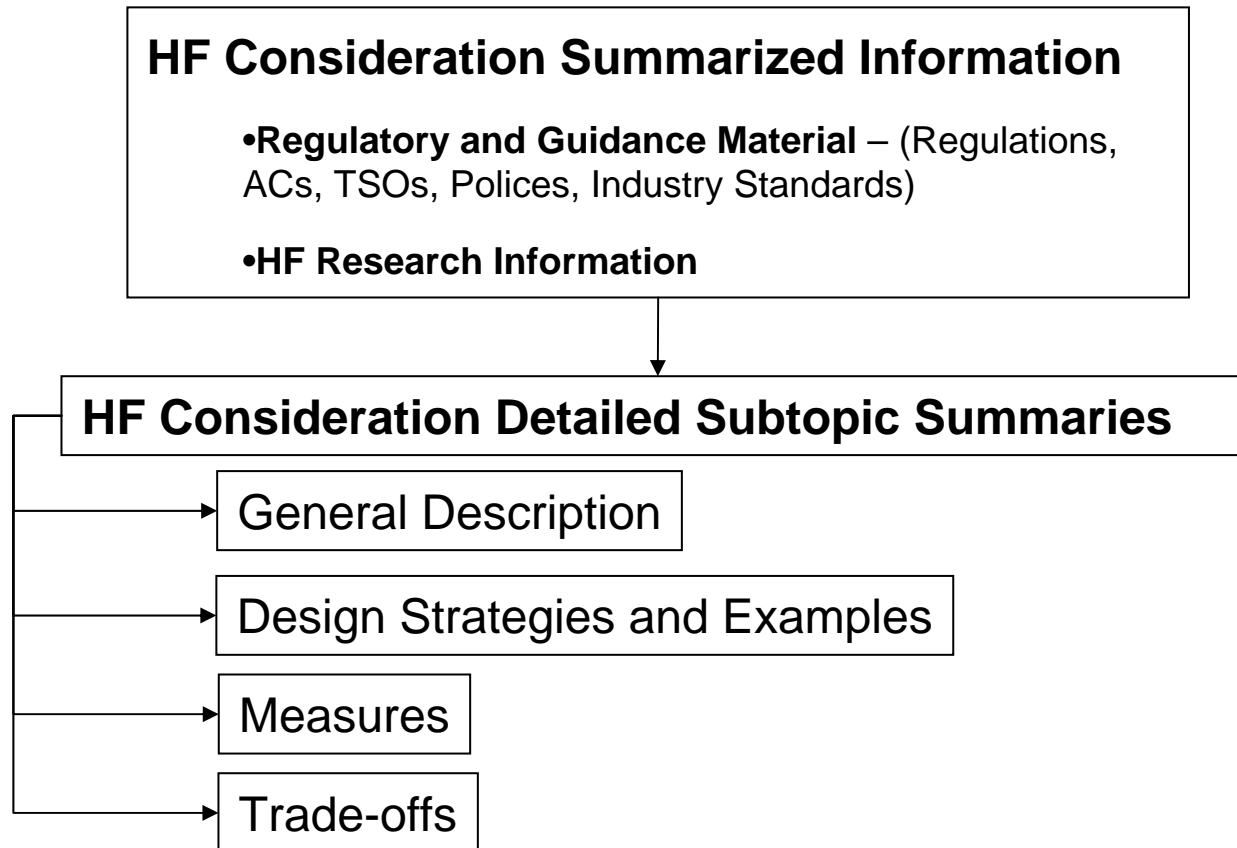
We found that certification team members look for HF information starting with:

- Regulation or guidance document
- Flight deck equipment or component
- General HF topic

Job Aid Information Structure



Job Aid Information Structure (cont.)





FAA Benefits



- Time and efficiency for locating pertinent information
- Systematic approach to identifying human factors considerations
- Shared structure to use for communication
- Estimated savings to FAA of at least \$3M annually



Transferring Technology to Industry



- Upgraded infrastructure (e.g. database to SQL)
- Deploying as a web-based application
- Renamed to “Design CoPilot”
- Estimated that industry could save at least \$6M annually