

A-311 Aviation Planning



Participant Workbook



Prepared by Office of Aviation Services Training Division
and Interagency Aviation Training Partners
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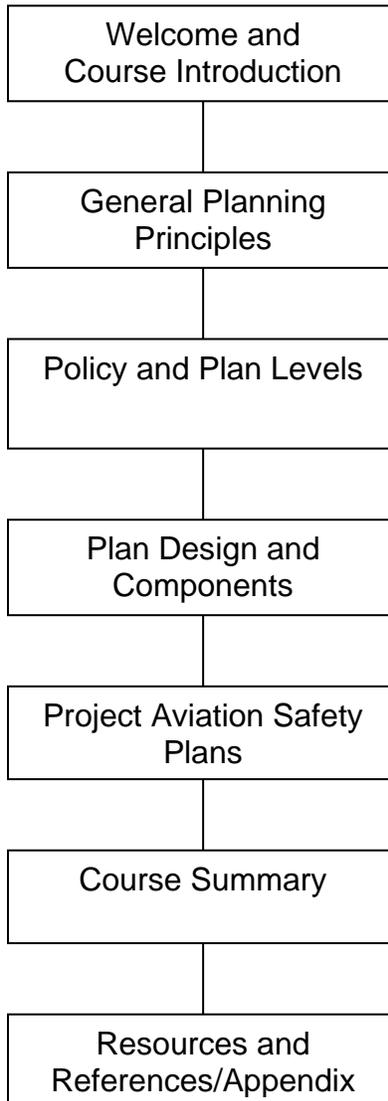
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Version Control

Version	Description	Date
1.0	Original Materials	NA
1.1	ISD Review/Cleanup	4/24/13
1.2	Formatting Updates; Appendix Added	11/8/13
1.3	Expanded Objectives and Content, Exam developed	3/27/14
1.4	Included elements of OPM-6 and FSM 5711 language	7/24/15
1.5	Updated cover page and header to reflect date of revision, removed reference to exam in Version 1.3	09/01/16
1.6	Changed version numbering to tenths, corrected factual information on ID F&G accident, and changed "Module" references to "Unit".	01/31/17

A-311 Aviation Planning

Course Map



Welcome and Course Introduction



Get to Know Your Classmates

Be prepared to share:

- Your name?
- Your position?
- How long have you been involved in aviation operations?
- In your position, how are you involved in Aviation Planning?

Course Purpose

The purpose of this course is to provide aviation personnel with an overview of the Aviation Planning Process for state and federal agencies, including how and when to prepare an aviation plan.

Course Prerequisite

It is highly recommended that the students complete the A205 Risk Management I course or have field experience in developing a risk assessment worksheet matrix prior to taking this course.

Objectives

At the conclusion of this course, you should be able to:

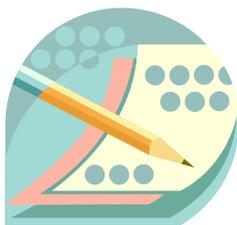
1. Define an aviation plan.
2. Explain the purpose of an aviation plan.
3. Identify the hierarchy of aviation planning levels.
4. Identify which levels of aviation plans affect your bureau or agency.
5. List two examples each of operational and non-operational aviation plans.
6. List three types of operational plans that might be included or referenced in a Unit Aviation Plan.
7. Explain the difference between operational decisions and discretionary decisions.
8. Identify at least three sources of reference that can assist in the development of an aviation plan.
9. List the components of OPM-6 (Appx. A) and/or FSM 5711.04 that would apply to aviation operations on your unit.
10. Identify at least three optional components that may be included in an aviation plan.
11. Explain when a Pre-Accident Response Plan (Mishap Response Plan) should be included.
12. Describe a situation in which an operational aviation plan might include a personal protective equipment waiver.
13. Describe the Review and Approval Process for Unit Aviation Plans.
14. Describe the Review and Approval Process for Project Aviation Safety Plan.
15. Describe the purpose of a Project Aviation Safety Plan.
16. Identify the components OPM-6 (Appx. B) and/or FSM 5711.1 that must be included in any Project Aviation Safety Plan.

Failing to Plan



Most aviation accidents and incidents are the result of the failure to follow policy and procedures.

This is a photo of an Idaho State Fish & Game accident that occurred when the pilot and two observers were looking for cougar tracks in the snow. The pilot and both observers were focused on tracks and did not notice the lone snag that caused the accident. The pilot and one observer were fatally injured and the other observer had both legs broken and sustained back injuries. The fuel truck driver was performing flight following duties but was not trained in the proper protocol if there was a mishap. Therefore, it was after dark before anyone was notified that the aircraft had not returned. The observer had limited mobility and spent the night in the aircraft. The aircraft survival kit was accessible however it was secured with metal banding and the observer had no means of opening the kit.



Interaction/Activity: What would you have added to a plan to ensure a safer operation?

**Unit 1: General Planning Principles
Objectives**

Notes

1. Define an aviation plan.
2. Explain the purpose of an aviation plan.

Definition of a Plan

- A scheme for achieving an objective: a method of doing something that is worked out usually in some detail before it is begun and that may be written down in some form or simply retained in memory.
- An orderly arrangement of parts of an overall design or objective.

What is an Aviation Plan?

A written description of the procedures and methods by which an organization will conduct safe and efficient aviation operations

The Purpose of an Aviation Plan

- Provides standard practice and procedures so everyone who manages or uses aviation activities are aware of requirements
- Enables others to understand the responsibilities of positions
- Important orientation and briefing tool
- Increases safety by giving the critical information to perform their jobs
- Reduces risk through planning and forethought

Unit 2: Policy and Plan Levels

Objectives

3. Identify the hierarchy of aviation planning levels.
4. Identify which levels of aviation plans affect your bureau or agency.
5. List two examples each of operational and non-operational aviation plans.
6. List three types of operational plans that might be included or referenced in a Unit Aviation Plan.
7. Explain the difference between operational decisions and discretionary decisions.



Aviation Plan Levels

There are multiple levels to Aviation Plans. The highest level, National Aviation Plan, is the starting point. Each level supersedes those below it and indicates (in the content) whether a plan at the next lower level is required.

Operational Plans (i.e. Project Aviation Safety Plans, Mishap Response Plans, etc.) would be required any time there is a non-point-to-point flight operation.

Commercial flights and point-to-point passenger transport flights usually require only information regarding the flight to be written, i.e. a flight strip.

Operational vs. Non-Operational Aviation Plans

PASPs and Mishap Response Plans (Pre-Accident Response Plans) are usually considered operational (contain specific information that non-operational plans may not contain, such as cost, radio frequencies, etc.). There are several types of Base Operating Plans (Helibase, Tanker Base, SEAT Base).

Sub-Unit/District Aviation Plans and all superseding plans are considered non-operational (i.e. they provide only general direction regarding aviation policy, but no language regarding specific flight operations). A Local/Base Aviation Plan could be considered either operational or non-operational, but is most often considered operational.

Example: A USFS exclusive use Helitack Crew operates not only under a Unit (District) Aviation Plan, but also a Helibase Operations Plan. The Helibase Operations Plan is considered an operational plan because it contains specific language regarding initial attack or other emergency operations that occur daily.

When the bell goes off for a dispatch, you wouldn't want to have to stop and write a PASP and get it approved before you launch the helicopter. That language is already written into the Base Plan, so the only actions needed prior to launch would be mission planning and a risk assessment. A specific PASP would only need to be written for any flight operations that were not included in the Base Plan.

Interaction/Activity: Plan Levels

Identify which of the levels apply to your bureau or agency:

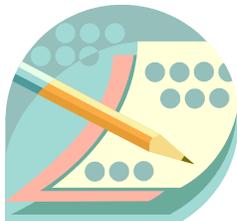
- National Aviation Plan
- Regional/State Aviation Plan
- Unit Aviation Plan
- Sub-Unit Aviation Plan
- Base Operations Plan
- Project Aviation Plan

Discretionary vs. Operational Decisions

Discretionary: You do not have the discretion to change the policy. The discretion is made at a higher organizational level. For example: Your plan cannot omit the requirements for Personal Protective Equipment (PPE) or flight following, as that decision has been made at the Department level.

Operational: You can make operational decisions, for example instead of 15 minute check-in time for flight following, you can require a flight following check-in of every 10 minutes.

Choosing to make a discretionary decision could result in an employee working outside the scope of their employment, which can lead to personal liability issues. It is important to follow policy and only make those decisions for which you are authorized, i.e. operational.



Interaction/Activity: Decision Types

List two examples each of operational and discretionary decisions (other than those already provided).

Operational

Discretionary

Unit 3: Plan Design and Components

Objectives

8. Identify at least three sources of reference that can assist in the development of an aviation plan.
9. List the components of OPM-6 (Appx. A) and/or FSM 5711.04 that would apply to aviation operations on your unit.
10. Identify at least three optional components that may be included in an aviation plan.
11. Explain when a Pre-Accident Response Plan (Mishap Response Plan) should be included.
12. Describe a situation in which an operational aviation plan might include a personal protective equipment waiver.
13. Describe the Review and Approval Process for Unit Aviation Plans.
14. Describe the Review and Approval Process for Project Aviation Safety Plan.

Who Prepares the Plan?

In most cases, the senior level aviation manager is responsible for writing a non-operational plan at that level (i.e. a Unit Aviation Plan is written by a Unit Aviation Officer; a State Aviation Plan is written by a State Aviation Manager).

An operational plan however can be written by various people, or more than one person, depending on what the mission is. (i.e. a Mishap Response Plan might be written by a Dispatcher, Center Manager or Project Supervisor; a Base Operations Plan might be written by a Helitack Supervisor or a SEAT Base Manager; A PASP might be written by a Helitack Supervisor, SEAT Base Manager, UAO, FAO, or a number of other people).

It will usually contain contributions from different subject matter experts (SME's). This will vary depending on the Bureau/Agency and the overall complexity of the plan. SMEs should be encouraged to participate in the drafting of chapters/topics of the plan in which they have specific knowledge.

The Aviation Manager's Role in Planning

Considerations

- Network with subject matter experts.
- Don't state policy via reference. Document chapter, verse, paragraph, and item number.
- Obtain copies of other "like" Unit Aviation Plans.
- Consider a team effort; take ownership.
- Solicit input and feedback.
- Conduct employee briefings on the plan.

Factors That May Determine Your Role

- What is the Line Manager's perception of Aviation Management on the Unit?
- What is the Staff's view of the aviation program?
- What is the history of aviation accidents on the Unit?
- How do personalities and attitudes affect the way aviation is perceived?

Be Part of the Process

- Interject yourself when your input is necessary or required.
- Make an effort to contact people who may need your help but don't know it.
- Maintain a channel of communication with line managers and others to ensure that cost effectiveness, accountability and safety measures are taken into account.
- Develop a rapport with users and let them know how you can assist them in the planning process.
- Involve yourself in land management planning.
Assist agency/bureau managers in accomplishing their objectives safely, effectively and efficiently.

How to Build an Aviation Plan

Below is an outline of the critical elements needed to build an aviation plan. Each is covered in more detail in the next section.

Outline:

- 1) Identify sources of reference.
- 2) Include the required plan components:
 - a) Organization
 - b) Administration
 - c) Safety
 - d) Operations
 - e) Training
 - f) Security
 - g) Airspace Coordination
 - h) Project Planning
- 3) Include optional components, depending on the complexity of the plan:
 - a) Table of Contents
 - b) References
 - c) Definitions
 - d) Appendices
- 4) Review and Approval
 - a) Preparer(s)
 - b) Reviewer(s)
 - c) Approver(s)
 - d) Line Officer – Final Approver

How to Build an Aviation Plan – Detailed Steps

1) Identify Sources of Reference

When writing your plan, you must research agency/bureau manuals to determine what policy will allow or disallow on the subject of your plan.

Questions to consider:

- Are there DOT or FAA considerations?
- Are there any special dispatching concerns (for examples Law Enforcement operations)?
- Does the scope of work clause in the procurement document include your mission?

Reference documents should be listed to ensure compliance is met by the appropriate policy.

IMPORTANT! Make sure your plan does not supersede or conflict with a higher-level plan or violate policy. You need to ensure that you have not been more lenient in your direction or policy than existing policy.

2) Include the Required Plan Components

Every aviation plan – regardless of the level – should include these eight components:

a) **Organization:**

b) **Administration:**

c) Safety:

d) Operations:

e) Training:

f) Security:

g) Airspace Coordination:

h) Project Planning:

3) Include optional components, depending on the complexity of the plan:**a) Table of Contents**

A Table of Contents is usually helpful, especially if the plan is long, complex or for an extended series of events.

b) References

If there are multiple references and sources used, it may be better to add this section rather than trying to refer to them in the plan.

c) Definitions/Glossary

This section would be helpful if there are terms with which the readers/reviewers may not be familiar.

d) Appendices

Include any additional supporting documentation.

4) Review and Approval

The Review and Approval Process can be slightly different depending on Bureau/Agency. The next higher level of plan will determine the specifics. Generally a minimum of two reviewers (at a higher aviation level than the author of the plan) are required. The approver is generally required to be a line officer or line manager.

Note: It is the responsibility of the plan preparer to plan far enough in advance to include review and approval time.

Examples:

A USFS District Aviation Plan authored by a District Fire Management Officer (FMO) might get reviewed by the Forest Aviation Officer (FAO) and the Regional Helicopter Operations Specialist (HOS), and then be approved by the District Ranger.

A BLM Field Office (FO) Plan authored by an FO Unit Aviation Officer (UAO) might get reviewed by a District UAO and a State Aviation Manager (SAM) and get approved by District Manager.

- a) Preparer(s)
- b) Reviewer(s)
- c) Approver(s)
- d) Line Officer – Final Approver

Operational Plans



Interaction/Activity:

Scenario: Reference the image in the slide presentation of the helicopter toe-in landing.

In the given scenario, is the maneuver legal for DOI?

What about for USFS?

Is it legal for your bureau?

What kind of plan or approval process would you need for this type of operation?

Unit 4: Project Aviation Safety Plans

Objective

15. Describe the purpose of a Project Aviation Safety Plan.
16. Identify the components OPM-6 (Appx. B) and/or FSM 5711.1 that must be included in any Project Aviation Safety Plan.

Definition

A Project Aviation Safety Plan (PASP) is a written document developed for all special use flight activities.

The PASP is a tool that, when used as intended will:

- Minimize risk
- Increase efficiency and effectiveness
- Ensure the safety of all personnel

It is developed based upon and tiered from the Aviation Management Plan above it. Plans for recurring or routine special use flights can be rolled into a Unit or Base Aviation Management Plan.

Reasons for PASPs:

- Special training requirements for ground personnel
- Special pilot qualifications
- Special equipment needs
- Special job assignments and preparations
- Required by policy

- DOI OPM-6:
 - *Project Aviation Safety Plans (PASPs) will be developed for all special use missions. For those bureaus that perform similar special use aviation missions on a recurring or routine basis, the required PASP can be rolled into a station/unit aviation plan that is reviewed at least annually. In this instance, in place of a PASP the bureau must have a documented process to capture the unique and special circumstances (ex. dispatch log, passenger manifest).*

- USFS FSM 5700:
 - *Prior to commencing non-emergency projects involving the use of aircraft, Regional Directors, Area Director, Forest Supervisors, and Station Directors shall develop and document a project aviation plan that includes:*
 - a) *A project aviation safety plan reviewed by the Regional Aviation Officer.*
 - b) *A cost comparison, including the means of accomplishing the project without the use of aircraft.*
 - c) *A risk assessment as described in the Incident Response Pocket Guide (IRPG), the Interagency Standards for Fire and Fire Aviation Operations (Red Book), or the Interagency Helicopter Operations Guide (IHOG).*
 - d) *A Job Hazard Analysis, form FS-6700-7 (FSH 6709.11) for work processes supporting aviation projects not covered in a risk assessment above.*
 - e) *A Job Hazard Analysis, form FS-6700-7 (FSH 6709.11) for work processes supporting aviation projects not covered in a risk assessment above.*

PASP Required Elements:

- **DOI OPM-6:**
 1. **Project Name and Objectives** – Brief description of the project and its objectives.
 2. **Justification** – Indicate why the project will require the use of an aircraft in special use flight conditions/environments and list the most practical alternative for completion of the project.
 3. **Project Dates** – Dates the project will begin and end. These may be approximate, since the exact dates of flight may not be known.
 4. **Location** – Enter a descriptive location and include a map clearly showing the area where the flights will occur. Aerial hazards must be clearly indicated.
 5. **Projected Cost of Aviation Resources** – Enter cost coding, projected flight hours and cost, projected miscellaneous expenses (overnight charges, service truck mileage, etc.), and total cost of the aviation portion of the project.
 6. **Aircraft** – If known, identify company(s) that own(s) aircraft anticipated to be used, registration number, aircraft type, date of aircraft data card expiration and missions for which the aircraft is approved.
 7. **Pilot** – If known, identify Pilot(s), types of aircraft qualified in, types of missions qualified for and Pilot card expiration date.
 8. **Participants** – List individuals involved in flights, their qualifications (Helicopter Manager, Passenger, Helibase Manager, etc.), dates of last aviation training, and include individual's project responsibilities.
 9. **Communication Plan, Flight Following and Emergency Search and Rescue** – Identify the procedures to be used.
 10. **Aerial Hazard Analysis** – An aerial hazard analysis with attached map will be provided to the pilot before the flight. Flights made in confined areas (e.g. deep, narrow canyons) require that a prior ground and/or aerial survey of hazards be made. A copy of the hazards map shall be provided to the pilot prior to any project flight. The necessary temporary flight restrictions and coordination with the Federal Aviation Administration and, if appropriate, military authorities, must be accomplished prior to project.

- 11. Protective Clothing and Equipment** – Identify the protective equipment and clothing necessary for the particular operation. Survival equipment (extra water, flotation devices, sleeping bags, etc.) beyond the normal PPE complement may be required.
- 12. Weight & Balance / Load Calculations** – The pilot is responsible for the accurate completion of weight and balance load calculations. Trained aviation personnel shall ensure that aircraft scheduled are capable of performing the mission(s) safely and within the capability of the aircraft selected. The helicopter or fixed wing manager shall ensure that manifests and weight and balance load calculations are completed properly and completed daily.
- 13. Risk Assessment/SMS** – Risk assessment utilizing the tools listed in Appendix J of IHOG or bureau approved SMS. Risk management principles and processes are described in detail in Chapter 3 of the IHOG: http://www.nwccg.gov/pms/pubs/pms510/23_Chapter03.pdf. A variety of risk assessment tools can be found in the IHOG Appendix J: http://www.nwccg.gov/pms/pubs/pms510/53_AppendixJ.pdf
- 14. Signatures** – Line Manager or appropriate level of approval based on the risk assessment or other bureau requirement.

- **USFS FSM 5711.1**

1. **Supervision** - Identify the qualified Project Aviation Manager.
2. **Project Name and Objectives** – Provide a brief description of the project and its objectives.
3. **Justification** – Indicate why the project will require the use of aircraft in special-use flight conditions/environments and list the most practical alternatives for completion of the project.
4. **Project Date(s)** – State the dates the project will begin and end. These may be approximate, since exact dates of flight may not be known at the beginning of the year.
5. **Location** – Enter the descriptive location and include a map clearly showing the area where flight(s) will be made; aerial hazards must be clearly identified.
6. **Projected Cost of Aviation Resources** – Enter cost coding, projected flight hours and cost, projected miscellaneous expenses (such as overnight charges or service truck mileage) and total cost of the project.
7. **Aircraft** – If known, identify vendor(s) that own aircraft to be used, registration number, aircraft type, aircraft data card expiration date and missions for which the aircraft is approved.
8. **Pilot(s)** – If known, identify pilot(s), type of aircraft qualified in, type of missions qualified for and pilot expiration date.
9. **Participants** – List individuals involved in flight(s), their qualifications (such as Helicopter Manager, Helibase Manager or Fixed Wing Flight Manager), dates of their last aviation training and their project responsibilities.
10. **Flight Following and Emergency Search and Rescue** – Identify the procedures to be used.

11. Aerial Hazard Analysis – Provide an aerial hazard analysis for each flight with an attached map.

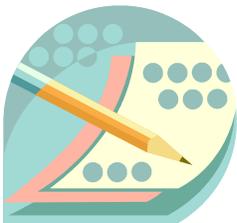
- a. Require a prior ground and/or aerial hazards survey for flights made in confined areas (such as deep, narrow canyons).
- b. Brief the aerial hazard map with the pilot and provide a copy to the pilot prior to any project flights.
- c. Accomplish necessary planning concerning temporary flight restrictions (TFRs) and coordination with the Federal Aviation Administration (FAA) and military authorities (if appropriate) prior to project flights.

12. Protective Clothing and Equipment – Identify the protective equipment and clothing necessary for the particular operation and any survival equipment (such as extra water, flotation devices or sleeping bags) beyond the normal personal protective equipment (PPE) complement that may be required.

13. Load Calculations and Weight and Balance.

- a. Include the Load Calculations provided by the pilot, who is responsible for the accurate completion of load calculations.
- b. Ensure that trained aviation personnel have determined that the scheduled aircraft are capable of performing the mission(s) safely and within the capabilities of the type of aircraft needed.
- c. Ensure that manifests and load calculations/weight and balance calculations are completed and noted properly by the Helicopter Manager or Fixed Wing Flight Manager as appropriate (per the contract, Federal Aviation Regulations operations specifications and FSH 5709.16, 32.12 and 32.2

14. Risk/Hazard Assessment – Complete a Risk/Hazard Assessment that identifies hazards associated with the operation and the mitigations and controls put in place to reduce or eliminate them. The process for completing this assessment is found in the *Incident Response Pocket Guide (IRPG)*, the *Interagency Standards for Fire and Fire Aviation Operations (Red Book)*, or the *Interagency helicopter Operations Guide (IHOG)*.



Interaction/Activity: What are some examples of missions where there are “special requirements” that require a PASP?

Summary

Objectives Review:

1. Define an aviation plan.
2. Explain the purpose of an aviation plan.
3. Identify the hierarchy of aviation planning levels.
4. Identify which levels of aviation plans affect your bureau or agency.
5. List two examples each of operational and non-operational aviation plans.
6. List three types of operational plans that might be included or referenced in a Unit Aviation Plan.
7. Explain the difference between operational decisions and discretionary decisions.
8. Identify at least three sources of reference that can assist in the development of an aviation plan.
9. List the components of OPM-6 (Appx. A) and/or FSM 5711.04 that would apply to aviation operations on your unit.
10. Identify at least three optional components that may be included in an aviation plan.
11. Identify when a mission-specific Pre-Accident Response Plan (Mishap Response Plan) is necessary.
12. Describe a situation in which an operational aviation plan might include a personal protective equipment waiver.
13. Describe the Review and Approval Process for Unit Aviation Plans.
14. Describe the Review and Approval Process for Project Aviation Safety Plan.
15. Describe the purpose of a Project Aviation Safety Plan.
16. Identify the components OPM-6 (Appx. B) and/or FSM 5711.1 that must be included in any Project Aviation Safety Plan.

If you have any questions regarding these objectives, ask the instructor for clarification.

Please be sure to complete and submit the Course Evaluation Form provided by the instructor.

Appendix A Resources and References

Electronic Attachments:

- PASP Template
- PASP Example
- PASP: “Aerial Recon” – Sam Houston NF
- PASP: “STEP Training HAVO 20XX” – Hawaii Volcanos NP
- PASP: “Wolf Capture” – B-T NF
- NPS RM60
- BLM WY State Aviation Plan
- BLM ID State Aviation Plan
- 20XX YOSE HB OPS Plan
- PASP: “20XX_PASP_YNP_Hoist_Final”
- USGS Draft NAMP 2-9-16
- USFS 2017/2018 National Aviation Safety Management Plan
- USFS Director’s Approval Letter – 2017/2018 NASMP

Helpful Links:

USFS FSM 5700:

http://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsm?5700

USFS National Aviation Plan:

http://www.fs.fed.us/foresthealth/aviation/resources/docs/2016_National_Aviation_Safety_and_Management_Plan.pdf

USFWS National Aviation Plan:

<https://www.fws.gov/policy/>

BIA 2009 National Aviation Plan:

<http://www.bia.gov/cs/groups/xnifc/documents/text/idc012332.pdf>

NPS Reference Manual (RM) 60:

<https://www.nps.gov/subjects/aviation/upload/reference-manual-60.pdf>

BLM National Aviation Plan:

<http://www.blm.gov/style/medialib/blm/nifc/aviation.Par.0008.File.dat/NAP.pdf>

BLM State Aviation Plans:

<http://www.blm.gov/nifc/st/en/prog/fire/Aviation/avlibrary.html>