

## NASA HEADQUARTERS NEPA CHECKLIST AND RECORD OF ENVIRONMENTAL CONSIDERATION (REC)

1. **Project Name:** ARRA Funded Activities associated with the HQ Fundamental Aeronautics Program HQ ID – 1119
  
2. **NEPA Contact:** Kathleen Callister, NASA HQ, 202-358-1953
  
3. **Description of the Proposed Action:** Develop and mature vehicle concepts to assess the viability of promising technologies such as tilt-rotors for heavy-lift rotorcraft, blended-wing-body shaping, imbedded/podded propulsion, open high-speed rotors, low emission combustors, low noise/vibration rotor-wings, advanced structures, and laminar flow. Develop and assess advanced vehicle shaping approaches needed for low-boom supersonic aircraft, since sonic boom strength must be lowered significantly below current levels to enable community acceptance of supersonic flight over land.  
**Planned Activities:**
  - a. Award contracts for innovative, high-risk research. (HQ managed)
  - b. SBIR/STTR investments. (HQ managed)
  
4. **Purpose and Need for the Proposed Action:** The efforts are aligned with the NASA Aeronautics Research Mission Directorate goal as cited in the current NASA Strategic Plan: SubGoal 3E: "Advance knowledge in the fundamental disciplines of aeronautics, and develop technologies for safer aircraft and higher capacity airspace systems." Furthermore, the efforts are consistent with the Fundamental Aeronautics Program goal which is to achieve technological aeronautical capabilities necessary to overcome national challenges in air transportation including minimizing noise and emissions, reducing fuel consumption, and enabling a faster means of transportation.
  
5. **Does this action fall into one of the following Categorical Exclusions (CATEX) ?**  YES / NO  
*If yes, please indicate which one below:*
  - a. Research and development activities in—
    - (1) Space science, other than specific spacecraft development and flight projects,
    - (2) Space and terrestrial applications, other than specific spacecraft development and flight projects,
    - (3) Aeronautics and space technology and energy technology applications, other than experimental projects that have the potential for substantial environmental impacts, and
    - (4) Space transportation systems engineering and scientific and technical support operations, routine transportation operations, advanced studies.
  - b. Enhanced space tracking and data systems,
  - c. Facility planning and design (funding),
  - d. Minor construction of new facilities, including rehabilitation, modification, and repair, and
  - e. Continuing operations of a NASA facility at a level of effort, or altered operations, provided the alterations induce only social and/or economic effects but no or minimal natural or physical environmental effects.
  
6. **Does the proposed action individually or cumulatively result in any of the following: 1) have significant environmental impacts, 2) result in a high degree of public controversy; or 3) cause NASA to be at risk of violating any Federal, State or local laws ?** YES /  NO
  - a. Activities are research and design (administrative) in nature.

7. Is this action covered under an existing Environmental Assessment (EA)? YES  NO

If yes, what is the title and date of the EA:

8. Is this action covered under an existing Environmental Impact Statement (EIS)? YES  NO

If yes, what is the title and date of the EIS:


9. Comments:

**Review and Approval:**



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**Kathleen Callister**  
**NASA NEPA Program Manager**



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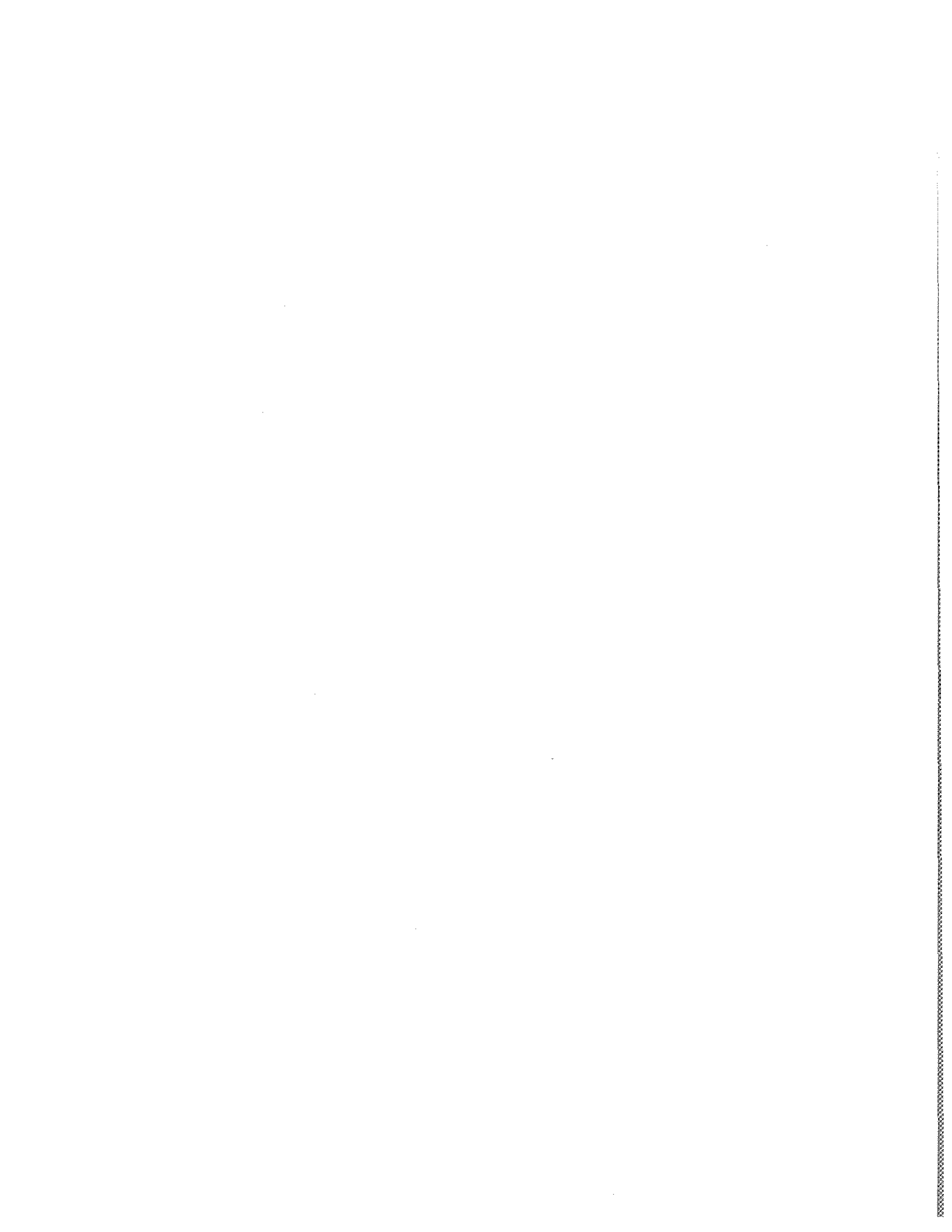
**Date**

**Environmental Checklist:**

<b>A. Geology:</b>	<b>Yes</b>	<b>No</b>	<b>Unk/ Maybe</b>
1. Will the project result in more than 10% change in topography or ground surface relief features?		X	
2. Will there be any increase in wind or water erosion of soils, either on or off site?		X	
3. Will there be changes in deposition, siltation, or erosion that may modify the streams or waterways?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>B. Air:</b>	<b>Yes</b>	<b>No</b>	<b>Unk/ Maybe</b>
1. Will there be any air emissions or possible releases (e.g., CO, NOx, O3, Pb, PM, SO2, VOC)?		X	
2. Will there be creation of objectionable odors or smoke?		X	
3. Will there be alternation of air movement, moisture, temperature, or any changes in climate, either locally or regionally?		X	
4. Will there be combustion sources such as generators, backup generators, paint booths, parts cleaning, solvent cleaning, or any other items that may require a permit?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>C. Water:</b>	<b>Yes</b>	<b>No</b>	<b>Unk/ Maybe</b>
1. Will the project result in surface water runoff (e.g., roofs, parking lots, covers) or change drainage patterns?		X	
2. Will project result in storm water discharges?		X	
3. Will the project require storm water detention ponds?		X	
4. Will the project result in wastewater discharges (e.g., sanitary sewer or industrial operations and maintenance chemical waste)?		X	
5. Will the project have any discharges to the ground?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>D. Cultural Resources:</b>	<b>Yes</b>	<b>No</b>	<b>Unk/ Maybe</b>
1. Will the project affect any historical landmarks?		X	
2. Will the project affect any historical properties (properties eligible or potentially eligible for listing on the National register of Historic Places)?		X	
3. Will the project alter a building that is 50 years old?		X	
4. Is the project located in an area with potential for archeological resources?		X	
5. Will the project have any discharges to the ground?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>E. Biological Resources:</b>	<b>Yes</b>	<b>No</b>	<b>Unk/ Maybe</b>

			Maybe
1. Will wetlands be affected by the proposed action?		X	
2. Will the project impact any threatened or endangered species?		X	
3. Will the project impact migratory birds?		X	
4. Will the project impact eagles?		X	
5. Does the project have the potential to introduce new species or plants into an area?		X	
6. Does the project involve landscaping or modifications to the existing landscaping?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>F. Noise</b>	Yes	No	Unk/ Maybe
1. Will noise increase greater than 10% from an existing operation?		X	
2. Will people or animals be exposed to noise levels above 80 dBA?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>G. Land Use:</b>	Yes	No	Unk/ Maybe
1. Will there be substantial alteration of the present or planned land use?		X	
2. Will the project interfere with the use or operations of existing facilities?		X	
3. Will there be impacts to any parks or recreational areas?		X	
4. Will the project involve activities that result in a change in the total employment levels greater than 10%?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>H. Hazardous, Toxic, and Radioactive Materials and Wastes:</b>	Yes	No	Unk/ Maybe
1. Will the project involve acquisition, use or storage of any chemicals, toxic materials, or radioactive materials?		X	
2. Will the project generate medical (biohazard), toxic, or radiological wastes?		X	
3. Will the project generate radiation?		X	
4. Will the project acquire, use or store Class I ozone-depleting substances (CFCs, TCA, halons)?		X	
5. Will the project disturb or dispose of PCBs?		X	
6. Will the project use solvent cleaning stations?		X	
7. Will the project use pesticides, insecticides, herbicides, fungicides, or rodenitcides?		X	
8. Will the project install or use any toxic chemical?		X	
9. Will the project install or use any above or underground storage tanks?		X	
10. Will the project use solvent cleaning stations?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>I. Health and Safety:</b>	Yes	No	Unk/ Maybe

1. Is there a risk of exposure to asbestos or lead containing materials?		X	
2. Is there a risk of exposure to medical (biohazard), hazardous, toxic, or radiological materials?		X	
3. Will the project involve confined space entry?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>J. Transportation:</b>	<b>Yes</b>	<b>No</b>	<b>Unk/ Maybe</b>
1. Will the project have substantial traffic impacts?		X	
2. Will the project affect existing parking facilities or demand for new parking?		X	
3. Will the project have a substantial impact upon existing transportation systems?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>K. Services and Utilities:</b>	<b>Yes</b>	<b>No</b>	<b>Unk/ Maybe</b>
1. Will the project require substantial amounts of energy?		X	
2. Will the project require substantial amounts of water?		X	
3. Will the project affect or result in the need for new or altered security services?		X	
Explain any "Yes" or "Unk/Maybe" answers:			
<b>L. Environmental Justice:</b>	<b>Yes</b>	<b>No</b>	<b>Unk/ Maybe</b>
1. Does the project have the potential to disproportionately affect low-income populations or minority populations in the surrounding areas?		X	
Explain any "Yes" or "Unk/Maybe" answers:			



## **ARRA SECTION 1609(c) COMPLIANCE CHECKLIST**

Section 1609(c) of the 2009 Recovery Act (ARRA) requires NASA to submit a report documenting the NEPA compliance of all activities receiving funds under the ARRA. This checklist will assist the Environmental Management Division (EMD) at NASA HQ in preparing this report which is submitted to the President's Council on Environmental Quality. If you need assistance with this checklist, or have any questions, please contact Kathleen Callister, NASA NEPA Program Manager, for assistance. She can be reached at 202-359-1953 or by email at Kathleen.e.callister@nasa.gov

TaskID: 04d

HQ- 1119

CEQ Project: Fundamental Aeronautics Programs

TAFS: 80-0125

ARRA Theme: Aeronautics Research

PDWBS:

Project Name: Fundamental Aeronautics Program

NASA Program: Fundamental Aeronautics Programs

**A. Does this action fall into one of the following Categorical Exclusions (CATEX)?**

If yes, please indicate which one below:

a. Research and development activities in -

- (1) Space science, other than specific spacecraft development and flight projects
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b. Enhanced space tracking and data systems,

c. Facility planning and design (funding),

d. Minor construction of new facilities, including rehabilitation, modification, and repair

e. Continuing operations of a NASA facility at a level of effort, or altered operations, provided the alterations induce only social and/or economic effects but no or minimal natural or physical environmental effects

**B. Has an Environmental Evaluation/Environmental Checklist been completed?**

If yes, what is the date of Completion 12/23/2009

**C. Has a Record of Environmental Consideration (REC) been completed?**

If yes, what is the date of Completion 12/23/2009

**D. Is this action covered under an existing Environmental Assessment (EA)?**

If yes, what is the title of the EA:

Date of FONSI:

**E. Is this action covered under an existing Environmental Impact Statement (EIS)?**

If yes, what is the title of the EIS:

Date of ROD:

**F. This action does not individually or cumulatively result in significant impacts; does not result in a high degree of public controversy; and does not cause NASA to be at risk of violating any Federal, State or local laws.**

Comments:

