

Appendix I
Draft EA Comment and Response Matrix

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Comments and Responses Matrix

No.	Commenter	Topic Addressed	Comment/Proposed Revision to Text	Response to Comment	Revision to Text
1.	Environmental Protection Agency (EPA)	Alternatives	As presented in the draft EA, only the No Action Alternative and the Proposed Action were described which does not provide an adequate Alternatives Analysis. The draft EA states on page 15 that “Because hundreds of millions of dollars in existing NASA and MARS infrastructure are already available for use, and WFF contains the only NASA-owned and operated launch range, WFF is the only launch site that can meet the stated Purpose and Need of enabling low-cost, quick turn-around aerospace research and commercial access to space.” “Therefore, no other launch sites were considered to be reasonable.” It is important that the draft EA address the consideration of other alternatives sites within the WFF, other NASA facilities, or other comparable sites. A comparison of proposed sites is critical to the environmental analysis.	NASA added a new alternative to EA in order to provide an alternative that will minimize the construction of new facilities. Congressional funding specifically for MARS and Wallops Flight Facility was passed in the Omnibus Appropriations Act, 2009, Public Law 111-8, which stated that launches to resupply the International Space Station will occur from Wallops Flight Facility and the MARS. The EA explains why no other NASA facilities are under consideration; however, additional information has been added to clarify the Congressional mandate. The launches cannot take place any further inland due to the hazard arcs and safety buffer distances that are required around each launch pad for public safety.	NASA added an additional proposed action alternative to the EA. The EA has been revised to include additional explanation regarding why no other NASA facilities are under consideration for the proposed action as well as to why the proposed action must occur on Wallops Island.
2.	EPA	Wetlands	Page 36 states that an extensive wetland system borders Wallops Island. The island has non-tidal freshwater emergent wetlands, several small freshwater ponds, freshwater forested shrub wetlands, estuarine intertidal emergent wetlands, maritime forests and marsh wetlands. The total size of the wetlands should be provided.	NASA will provide additional information in the EA regarding total size of the tidal and non-tidal wetlands around and within Wallops Island.	The EA has been revised to include the total acreages of tidal and non-tidal wetlands at Wallops Island.
3.	EPA	Wetlands	The Proposed Action would result in the loss of 5.7 acres of wetlands. One acre of tidal wetlands would be filled for construction of the Pad O-A ramp and road improvements and 4.7 acres of non-tidal wetlands would be filled by construction of the Payload Processing Facility (PPF) and its access road. NASA has determined that there are no practicable alternatives for the location of the Pad O-A ramps and road or the PPF due to siting constraints. It is important to note that the size and functional values of all impacted wetlands be analyzed and a mitigation plan for their replacement developed.	NASA is currently completing wetland delineations for the wetlands that would be affected by the proposed action. NASA will submit a JPA for review and approval by USACE, DEQ and local agencies and would obtain the necessary permits (potentially permits under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Virginia Water Protection permit). NASA will avoid and minimize potential impacts to wetlands to the maximum extent practicable and will fully comply with mitigation measures that are determined through the JPA process.	No revision necessary.
4.	EPA	Wetlands	In addition, when the wetland impact for the Proposed Action is combined with future projects, the total wetland impact is significant. For instance, the Alternative Energy Project would impact one acre of tidal wetlands in the central part of Wallops Island, and the North Unmanned Aerial Vehicle Airstrip (UAV) would impact 21 acres of tidal and non-tidal wetlands on north Wallops Island.	NASA is currently completing wetland delineations for the wetlands that would be affected by the proposed action. NASA will submit a JPA for review and approval by USACE, DEQ and local agencies and would obtain the necessary permits (potentially permits under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Virginia Water Protection permit). NASA will avoid and minimize potential impacts to wetlands to the maximum extent practicable and will fully comply	Anticipated wetland impacts from proposed projects have been revised in Section 4.5, Cumulative Effects.

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				<p>with mitigation measures that are determined through the JPA process.</p> <p>Also, NASA’s wetlands management plan serves as a mitigation measure, directing NASA to pursue preservation and restoration in addition to the practice of no net loss of wetlands through wetland creation.</p> <p>Impacts from other projects are still being evaluated but it appears that the UAV Airstrip will be substantially less than those initially reported in the draft EA.</p>	
5.	EPA	Wetlands	<p>Page 86 states that “Prior to construction, NASA and MARS would complete a jurisdictional wetland delineation in accordance with the USACE 1987 Wetland Delineation Manual and regional guidelines to determine the precise location and size of the wetland area that would be adversely affected.” Wetlands present on, or immediately surrounding the site should be delineated according to the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands. This information should be provided in the environmental documentation.</p>	<p>Currently DEQ and NASA utilize the USACE 1987 Wetland Delineation Manual, and USACE has approved recent wetland delineations conducted by NASA that used the 1987 methodology. Until USACE and DEQ guidelines and approvals change, NASA will continue to use the 1987 manual.</p>	<p>No revision necessary.</p>
6.	EPA	Wetlands	<p>The draft EA also states, “NASA and MARS would notify the public and coordinate with applicable agencies including USACE, and VDEQ, VMRC, and the Accomack County Wetlands Board; these agencies would be notified of potential impacts to wetlands by VMRC through the JPA process.” The text also reads, “Because the Proposed Action would involve federally funded and authorized impacts on jurisdictional wetlands, this EA serves as NASA’s means for facilitating public review as required by EO 11990.” It is important then to include within the environmental documentation all impacts to jurisdictional wetlands (including size and location of wetlands) and coordinate with applicable agencies in the planning process.</p>	<p>NASA is currently completing wetland delineations for the wetlands that would be affected by the proposed action. NASA will submit a JPA for review and approval by USACE, DEQ and local agencies and would obtain the necessary permits (potentially permits under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Virginia Water Protection permit). NASA will avoid and minimize potential impacts to wetlands to the maximum extent practicable and will fully comply with mitigation measures that are determined through the JPA process.</p>	<p>The text in Section 4.2.2.1 Wetlands has been revised to provide additional detail regarding potential effects to wetlands.</p>
7.	EPA	Wetlands	<p>Page 87 states, “A release of unspent RP-1 from ELV may create a thin film of petroleum on the water surface near the impact area.” “Due to the volume of this release into the nearby tidal wetlands, temporary impacts on water quality in the tidal wetlands may be adverse; however, because mitigation and cleanup measures would be implemented, the potential long-term impacts on tidal wetlands would not be significant.” The size of the tidal wetlands should be indicated and</p>	<p>Impacts to wetlands from launch activities are discussed in Section 4.2.2 of the EA (Surface Waters Including Wetlands). Examples of mitigation measures that would be utilized during emergency response if a contamination of the wetland were to occur have been added to the EA.</p>	<p>Section 4.2.2 Surface Waters Including Wetlands of the EA has been revised to include examples of mitigation measures that could be utilized in response to contamination of the tidal wetlands.</p>

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			<p>mitigation and cleanup measures identified.</p> <p>The impacts to wetlands which can occur from launch activities such as exhaust plume and other hazards such as radiant heat transfer or direct exposure to the high temperature exhaust gas mixture should be identified?</p>		
8.	EPA	Protection of Children from Environmental Health Risks and Safety Risks	NASA prepared an Environmental Justice Implementation Plan (EJIP). Page 74 states, “The closest day care centers, schools, camps, nursing homes, and hospitals are addressed within the EJIP.” The draft EA does not specify the proximity of these sensitive resource areas. A summary of the data in the EJIP should be presented.	Section 3.3.4 Environmental Justice has been revised to include the distances of the closest hospital, day care, and public campground. These public facilities are outside of the safety buffer distance of 3.04 kilometers (1.89 miles) surrounding Pad 0-A during launch.	Section 3.3.4 Environmental Justice has been revised to include the distances of the closest hospital, day care, school, and public campground.
9.	EPA	Cultural Resources	As noted on page 76, the last survey of cultural resources was conducted in 2004. Will there be an updated survey to look at properties that may now have achieved 50 years of age since 2004?	The 2006 Integrated Cultural Resource Management Plan (ICRMP) for the NASA WFF recommends that NASA evaluate resources for eligibility for listing in the National Register of Historic Places (NRHP) as they reach fifty years of age. While WFF has not conducted further identification and evaluation since 2004, a plan for a subsequent survey has been submitted and is awaiting funding. However, WFF's approach to Section 106 undertakings is to avoid adverse effects to properties that may be eligible for listing in the NRHP, including those that have not yet been evaluated.	No revision necessary.
10.	EPA	Stormwater	<p>It is not evident from the draft EA [page 84] where the [stormwater] retention basins would be constructed. It is important to note that according to the guidelines developed by the Interagency Stormwater/Wetlands Workgroup, it is the recommendation of the EPA to discourage the utilization of non-tidal wetland systems for stormwater treatment and management.</p> <p>Numerous studies have shown that siting these facilities in wetlands leads to the degradation of aquatic ecosystems by contributing to thermal pollution and downstream warming. Furthermore, an instream stormwater management and water quality treatment facility will alter hydrology and increase erosion and sedimentation rates.</p> <p>Retaining stormwater and changing the natural flow rate will alter the natural level of the water table and change the surrounding wetlands vegetation. Water temperature, habitat composition, and food availability are all directly affected when streamside vegetation is lost.</p>	Because final design of the proposed facilities has not been completed, the locations of permanent stormwater retention basins, if used, are currently not known. However, if permanent stormwater retention basins were included in facility design, they would not be placed within a waterway, stream, or wetland in order to preserve the existing hydraulic function and quality of these surface waters.	No revision necessary.

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			<p>Stormwater management structures in wetlands will not prevent pollutants such as spills, sediment, heavy metals, petroleum, rocket propellant, etc from entering the surface waters since the structures are already in the surface water. Wetlands are important components to the aquatic ecosystem that provide flood flow resynchronization, maintenance of water quality, habitat and nutrient uptake functions. EPA’s mandates include the preservation of these environmentally significant values and functions.</p>		
11.	EPA	Floodplains	<p>As stated on page 88, “All facility construction and infrastructure improvements would take place within the 100-year and 500-year floodplain.”</p> <p>It is important to note that floodplain encroachment must be evaluated and coordinated with the Federal Emergency Management Agency (FEMA). Federal Executive Order 11988 (Floodplain Management) states, “If an agency has determined to, or proposes to conduct, support or allow an action to be located in a floodplain, the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains.”</p> <p>Where no practicable alternatives exist, Executive Order 11988 goes on to state, “If property used by the general public has suffered flood damage or is located in an identified flood hazard area, the responsible agency shall provide on structures, and other places where appropriate, conspicuous delineation of past and probable flood height in order to enhance public awareness and knowledge about flood hazards.”</p> <p>To promote public safety, we recommend that at a minimum, a permit condition be included to require conspicuous delineation of past and probable future flood heights at multiple locations across the project site. These signs should be in place within six months of permit issuance.</p>	<p>All new facilities on Wallops Island are required to include flood mitigation measures such as elevating critical infrastructure (transformers, HVAC units, etc.) above the flood zone, or elevating the first floor above the flood zone (minimum of 10 feet above mean sea level [amsl]) – the first floor of the Horizontal Integration Facility will be elevated to 11 feet amsl. Hazardous materials and wastes would be stored in flood-proof storage containers/facilities or stored above the flood zone (i.e., on the first floor above 10 feet amsl).</p> <p>Because none of the buildings at WFF, existing or proposed, are public facilities, nor can the public access any WFF buildings or get on to Wallops Island without permission from NASA, the delineation of flood height in order to enhance public awareness does not apply.</p> <p>NASA is utilizing the publication of the Draft EA as notification for modification to or occupancy of a floodplain as required under EO 11988. Because Wallops Island is entirely within the floodplain, and facilities related to launch including launch pads and appurtenant structures cannot be moved inland due to the hazard arc/public safety buffer requirements, there are no practicable alternatives to construction within the floodplain of Wallops Island.</p>	<p>The EA has been revised to include more information regarding flood mitigation measures for new construction on Wallops Island.</p>

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12.	EPA	Floodplains	In addition, the draft EA states that “NASA and MARS would minimize floodplain impacts and protect and restore the natural and beneficial functions of floodplains to the maximum extent possible.” The text should state how NASA and MARS plan to protect and restore the natural and beneficial functions of the floodplains.	There are no practicable ways to restore the floodplain, therefore, the statement referring to protecting and restoring the floodplain has been removed from the EA. Flood mitigation measures have been added to the floodplains section. The functionality of the floodplain on Wallops Island, provided both by the wetlands on the island and the area of the island itself, is not substantially reduced due to the presence of existing or proposed facilities because the footprint of the facilities does not cover a substantial area of the island.	The EA has been revised to include more information regarding flood mitigation measures for new construction on Wallops Island. The statement referring to protecting and restoring the floodplain has been removed from the EA
13.	EPA	Air Quality	Page 98 states, “The conclusion of the workshop, based on evaluation of scientific studies performed in the United States, Europe, and Russia was that the effects of launch vehicle propulsion exhaust emissions on stratospheric ozone depletion, acid rain, toxicity, air quality, and global warming were extremely small compared to other human activities.” To make a fair comparison, the types of human activities referenced should be identified.	The reference does not specify the types of human activities; however, human activities that contribute to global warming include the burning of coal, oil, and natural gas, as well as deforestation and various agricultural and industrial practices.	Section 4.2.3.1 Halon of the EA has been revised to include examples of human activities that contribute to global warming. New Section 4.2.3.2, Climate Change, has been added to the EA to discuss the effect of human activities on global warming and air quality.
14.	EPA	Terrestrial Habitat	Page 112 states “Long-term adverse impacts to vegetation would occur due to the loss of forest, shrub, and wetland plant communities due to the construction of the PPF, PFF, and Pad 0-A ramp and road improvement; however, these impacts would be localized and would not present a substantial adverse effect.” As with wetlands, the loss of forest and shrub should be quantified and delineated.	Impacts to vegetation including tree removal have been quantified; the construction footprint of the proposed facilities and road improvements delineates the areas where vegetation would be affected.	The EA has been revised to include more information on impacts to vegetation including acreages of area affected.
15.	EPA	Threatened and Endangered Species	Page 116 states, “Therefore, NASA has determined that the once a year static firing related to the Proposed Action also would not result in adverse impacts on the piping plover or its habitat.” However, as stated on page 113, “...noise from static fire activities would be of longer duration, but infrequent (not more than two per year).” Clarification of exactly how many static fire activities per year should be documented. Consultation with U.S. Fish and Wildlife Service and Virginia Department of Game and Inland Fisheries is recommended to determine impacts (if any) to the piping plover or its habitat which may result from the static fire activities and open burning of rocket motors.	As described in the proposed action description of Section 2 Alternatives, static fire testing would occur up to two times per year. The statement on page 116 referring to once a year static firing is an error and NASA has corrected that sentence in the EA. NASA provided the USFWS a copy of the Draft EA and has requested their input regarding potential impacts on piping plover from the Proposed Action and cumulative activities at WFF. NASA is currently informally consulting with USFWS regarding impacts on piping plover, seabeach amaranth, and red knot for the proposed action activities. NASA expects to begin formal consultation with USFWS in the near future.	The sentence referring to one static firing per year in Section 4.3.3 Threatened and Endangered Species has been corrected by deleting the reference to one static fire test per year. Additional text describing impacts to state and federally listed species and ongoing consultations with USFWS has been added to the EA.
16.	EPA	Description of Proposed Action	Page 2, Section 1.2.1.3 Federal Aviation Administration, mentions the term reentry activities/operations at least three times. Please	As defined under US Code Title 49, Subtitle IX, Chapter 701, reentry services (sane as activities/operations] means “activities involved in the	Section 1.2.1.3 of the EA has been revised to include definitions for reentry operations and reentry site.

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			explain and/or describe reentry activities.	preparation of a reentry vehicle and payload, crew (including crew training), or space flight participant, if any, for reentry; and the conduct of a reentry. NASA has included a definition of reentry in the EA.	
17.	EPA	Description of Proposed Action	<p>Page 9 states, “Pad 0-A is a facility for launch vehicles with up to a 90,909-kg (200,000-lb) maximum load. Originally designed for the Conestoga vehicle, which was launched once in October 1995, Pad 0-A has been inactive; its launch service gantry (a large vertical structure with platforms at different levels used for erecting and servicing expandable launch vehicles [ELVs] before launch) and portions of the existing launch pad were removed in fall 2008, rendering Pad 0-A unusable for launching until a new, gantry is built.”</p> <p>Explain why the gantry was removed? Is this a typical activity after so many launches, was this done because it was found to be unsafe, or was the size of the gantry no longer useable?</p>	The old gantry was removed by the Virginia Commercial Space Flight Authority because the structure was dilapidated and no longer useable.	Additional text has been added to Section 1.2.3.1, Launch Complex 0.
18.	EPA	Safety	Page 35 states that, “This western boundary of Wallops Island includes a section of the Virginia Inside Passage, a federally maintained navigational channel frequently used by commercial and recreational boaters alike.” What is the notification system used to warn boaters of a launch activity?	<p>The WFF Test Director contacts the following agencies prior to launch dates, in order for the agencies to implement their procedures for warning boaters:</p> <ul style="list-style-type: none"> • FAA to issue Notices to Airmen (NOTAMS) • Coast Guard to issue Notices to Mariners (NOTMARS) – the Coast Guard is responsible for notification of boaters within the Virginia Inside Passage • Navy to close the Warning Areas of the Virginia Capes Range Complex • International Civil Aviation Organization, European Control Altitude Reservation Function and other foreign countries for overflight comparable to NOTAMS 	No revision necessary.
19.	EPA	Safety	Page 102 states, “NASA and MARS personnel and the public would be notified in advance of launch dates and times.” The means of notification should be specified.	NASA notifies the public about launch dates through their website and publication in local newspapers. NASA notifies tenants and NASA personnel through e-mail notices, postings, and verbal notification.	No revision necessary.
20.	EPA	Safety	Page 105 states, “If a flight approaches corridor limits, the flight would be destroyed by Range Safety personnel.” The text should describe how the flight is destroyed, the impacts, and potential resources that may be threatened.	A flight that approaches the edge of a safety corridor established by Range Safety would be destroyed essentially by a Range Safety Officer activating a remote system from the ground that would cause the rocket to lose thrust and come down within the safety zone area to protect human health and safety. Section 4.4.3 Health and Safety already includes an explanation of how and when flights are terminated by destruction.	Section 4.4.3, Health and Safety, has been revised to include a brief explanation of how Range Safety would destroy a flight.

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				Impacts from flight termination are described in the EA under the various resources topics in Section 4 as necessary.	
21.	EPA	Description of Resource	Page 106 states, “Fueling of ELVs with LOX and RP-1, and pressurized gases would take place at the Liquid Fueling Facility (LFF) adjacent to Pad 0-A.” The area surrounding the LFF should be described and potential resources that can be impacted from the hazardous waste and materials identified.	Resources that would be affected by a spill or leak in the area surrounding the LFF are identified, along with potential impacts, under each resource topic such as under surface waters, wetlands, and vegetation.	No revision necessary.
22.	EPA	Safety	Page 106 states, “Payload processing may require limited use of chemicals considered toxic under CERCLA (NASA, 1997).” Describe the type of toxic chemicals used.	Table 24 in the EA contains a list of materials that may be used during payload processing, including toxic chemicals. In addition, hypergolic propellants that would be stored and handled during fueling activities would be considered toxic.	Section 4.2.6 Hazardous Materials and Hazardous Waste Management has been revised to clarify that Table 24 contains payload processing materials which include toxic and hazardous substances under CERCLA.
23.	EPA	Transportation	Page 109 states, “Potential toxic corridors (transportation routes) are defined in mission specific Operations and Safety Directives-further information is provided in the Transportation discussion in Section 4.4.5 of this EA.” It is not apparent in Section 4.4.5 that a discussion was provided.	Because transportation routes for transporting toxic/hazardous materials are specific to each mission, the EA states that NASA would comply with all State and Federal regulations for the transport of hazardous materials. The text on page 109 does suggest that Section 4.4.5 Transportation of the EA will include more detail on specific transportation routes/corridors for the transport of toxic/hazardous substances – the text has been revised to remove the reference to toxic corridor routes being provided in Section 4.4.5.	Section 4.2.6 Hazardous Materials and Hazardous Waste Management has been revised to clarify that toxic corridor transportation routes are mission-specific [and therefore no further detailed information is provided in the EA].
24.	EPA	Hazardous Waste	Page 109 states, “In addition, the hazardous waste streams likely to be generated by the Proposed Action are not anticipated to substantially increase the amount of hazardous waste currently generated by WFF.” This statement needs to be explained. “Hazardous waste streams” should be described.	A hazardous waste stream is the generation and transportation of hazardous wastes at WFF. Hazardous wastes generated at WFF and under the proposed action are identified in Section 4.2.6 Hazardous Materials and Hazardous Waste Management of the EA.	No revision necessary.
25.	National Oceanic and Atmospheric Administration (NOAA) National Environmental Satellite Data and Information Service		The EA contains several brief references to communications instrumentation (p 9) and groundbased surveillance and radar tracking systems (pp 9 and 11) that will be employed during launch activities. Additionally, the use of radio frequency (RF) telemetry systems and data links between the spacecraft and ground systems is to be expected. The NOAA WCDAS has always been able to coexist with past launches without significant disruption to NOAA activities. However, the text contained in section 2.2.1.7 on p 22 of the EA mentions minor modifications to “communications support, radar, and antenna improvements”.	Currently, NASA is unaware of any new or expanded RF systems that would be installed or operated as a result of the Proposed Action. However, if new RF systems or modifications to existing RF systems, such as increasing RF power output or changing location or pointing direction, are planned in the future, NASA would coordinate with its tenants via the Wallops Frequency Utilization Management Working Group.	Section 4.2.7 Radiation has been revised to state that currently, NASA is unaware of any new or expanded RF systems that would be installed or operated as a result of the Proposed Action. However, if new RF systems or modifications to existing RF systems, such as increasing RF power output or changing location or pointing direction, are planned in the future, NASA would coordinate with its tenants via the Wallops Frequency Utilization Management Working Group.

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			Without specific technical information regarding the proposed modifications and improvements, NOAA is unable to assess any potential impacts to sensitive NOAA receiving systems from changes to said systems. Information required to perform an assessment might include a brief description of the equipment improvements or modifications, along with the technical characteristics of the improved/modified systems (i.e. changes in transmitter power output and/or antenna types/gains, and changes in antenna locations, orientation, or pointing direction, etc).		
26.	NOAA National Environmental Satellite Data and Information Service		The EA contains reference to loss of forest (p 112) due to construction activities. There is evidence from past technical studies that specific stands of the existing natural tree cover, located between the various Wallops Island transmitter systems and the Wallops Flight Facility, provide a degree of radio frequency (RF) isolation (increased propagation loss) to potential interfering signals from high-power transmitters located on Wallops Island and vicinity. This RF isolation currently contributes to allowing the sensitive receiver systems at the WCDAS to generally operate satisfactorily with transmitting systems in the local environment. Without more specific information regarding areas of trees or vegetation that are designated for removal, NOAA is unable to determine if performance degradation to the sensitive WCDAS receiver systems may increase.	The tree clearing proposed under the preferred alternative would be too far away to change the RF environment around NOAA.	Section 4.2.7 Radiation has been revised to state that tree removal for construction of new facilities would not result in impacts on NOAA radar systems.
27.	NOAA National Marine Fisheries Service (NMFS)		Of particular concern [of the proposed project] for the NMFS is the modifications proposed for the boat dock, specifically the installation of steel sheet piles which will require pile driving. As listed species of sea turtles are likely to occur in the proposed project area, effects to sea turtle species may result from the construction activities. As such, NMFS recommends that NASA initiate consultation pursuant to Section 7 of the Endangered Species Act. NASA should submit a determination of effects along with justification for the determination and a request for concurrence to NMFS.	After publication of the Draft EA, NASA coordinated with NMFS regarding Proposed Action impacts including work at the Wallops Island boat dock. In a letter dated July 8, 2009 NMFS concurred with NASA's determination that the boat dock improvements "may affect, but is unlikely to adversely affect" Kemp's ridley, Loggerhead, and Atlantic Green sea turtles with implementation of mitigation measures. Mitigation will include a visual sweep of the waterways adjacent to the boat basin each day prior to activities, stationing of a trained observer to watch for turtles entering the waterways, and installation of pilings by vibratory techniques rather than hammer methods to the greatest extent practicable.	The EA has been revised to include the mitigation measures that have been agreed upon between NASA and NMFS in a NMFS concurrence letter dated July 8, 2009.
28.	USACE, Robert Cole		In my opinion, with the number of projects NASA is proposing on Wallops Island, there should be a single EIS for the expansion. Although the projects are different the cumulative impacts of the	While having one consolidated NEPA document for all of Wallops Island activities may be administratively preferable, the independent nature/utility of each project, as well as very different	No revision necessary.

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			<p>UAS Airfield, Wind Turbines, Shore Stabilization projects, and this project are piecemeal in nature. The cumulative direct and indirect impacts of all of these projects are significant and warrant greater NEPA attention than a FONSI.</p>	<p>implementation schedules, preclude NASA from taking that approach. Additionally, NASA is addressing cumulative impacts of the projects in the cumulative impacts section of each NEPA document that is prepared (typically an EA with the exception of the Shoreline Restoration and Infrastructure Protection Program, which is an Environmental Impact Statement).</p> <p>Of specific interest to USACE regarding NASA's process of identifying and mitigating cumulative impacts to wetlands, NASA is preparing a wetlands management plan for actions on Wallops Island and Wallops Mainland. NASA is considering the cumulative impacts to wetlands and mitigation and compensation measures on an island-wide scale. NASA would ensure no net loss of wetlands and would also pursue preservation and restoration in addition to creation as mitigation measures. NASA is consulting with other federal agencies, including USACE, on the content of this plan.</p>	
29.	USACE, Robert Cole	Wetlands	<p>As it relates to Waters of the United States, the draft EA confined its scope to Wallops Island; it did not address alternative sites for the project. For example, why can't the launches take place at a different NASA facility (where launches are already taking place) or on the mainland?</p>	<p>The US Congress specifically authorized funding for launch range infrastructure improvements at WFF. The EA explains why no other NASA facilities are under consideration; however, additional information has been added to clarify the Congressional mandate. The launches cannot take place any further inland due to the hazard arcs and safety buffer distances that are required around each launch pad for public safety.</p>	<p>The EA has been revised to include additional explanation regarding Congressional funding specifically for WFF and why the facilities cannot be moved inland to avoid and minimize impacts on waters of the US.</p>
30.	USACE, Robert Cole		<p>The EA did not mention avoidance and minimization of impacts to waters or provide a mitigation proposal. These items will be required in the JPA, and may result in substantial changes in your plans for this project. Your proposed impacts, 5.7 acres, are significant in nature and require more detail than provided in the draft EA.</p>	<p>NASA is currently completing wetland delineations for the areas that would be affected by the proposed action and are far enough along in design to establish areas of disturbance. As design plans are completed and areas of disturbance are known, NASA will complete wetland delineations for all construction that would potentially impact wetlands. NASA will submit a JPA for review and approval by USACE, DEQ and local agencies and would obtain the necessary permits (potentially permits under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Virginia Water Protection permit). NASA will avoid and minimize potential impacts to wetlands to the maximum extent practicable and will fully comply with mitigation measures that are determined through the JPA process.</p> <p>Also, NASA's wetlands management plan serves as a mitigation measure, directing NASA to pursue preservation and restoration in addition to the practice of no net loss of wetlands through wetland creation.</p>	<p>No revision necessary.</p>

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31.	Virginia Department of Historic Resources		The Wallops Coast Guard Station and associated tower (001-0027-0100 and 001-0027-0101 respectively) are referenced in the Draft Environmental Assessment (EA). These resources have been determined Eligible for listing in the National Register of Historic Places (NRHP). Currently there is an agreement under development with DHR to address the adverse effects to these resources, DHR File No. 2004-0147. What is the status of the agreement? The last correspondence we have concerning the agreement is dated December, 2008. Please provide a status update of the MOA including any relocation plans currently in development.	NASA provided VDHR additional information regarding the status of the Coast Guard Station MOA in an informal consultation letter after publication of the Draft EA. In a letter dated July 15, 2009 VDHR concurred with NASA's determination that the proposed action would not adversely affect any historic properties. Additionally, as the new alternative would impact existing structures on WFF that had not previously been evaluating for historical eligibility, WFF submitted a letter report to VDHR on August 13, 2009. In a letter dated August 24, 2009, VDHR concurred with WFF's determination that Buildings V-45, V-50, and V-55 were not eligible for listing in the NRHP and that no historic resources would be affected by the proposed action, including construction of the HIF.	The EA and has been revised to include VDHR's determination of no adverse affects to cultural resources.
32.	Virginia Department of Historic Resources		We recommend that you request the comments of the National Park Service (NPS) Assateague Island National Seashore regarding indirect effects to the NRHP-listed Assateague Beach Lifeboat Station. According to the NPS directory, Trish Kicklighter is Superintendent and Carl Zimmerman is the Resource Management Specialist. These comments will allow us to better comment on the effects of the proposed undertaking.	In response to VDHR's request to request comments NPS Assateague Island National Seashore regarding indirect effects to the NRHP-listed Assateague Beach Lifeboat Station, NASA contacted Assateague Island National Seashore and requested their input on the Draft EA. Responses to Assateague Island National Seashore' comments have been included in this comment and response matrix.	Text has been added to Section 4.4.4, Cultural Resources, to describe consultation with NPS.
33.	Virginia Marine Resources Commission	Regulatory	[This] project will not be in the Commission's jurisdiction, therefore, no authorization would be required from the Marine Resources Commission. However, if any portion of the proposed project extends channelward of mean low water or falls within the Coastal Primary Sand Dunes/Beaches of Accomack County, authorization may be required from the Marine Resources Commission.	Comment noted. If any portion of the Proposed Action would extend channel-ward of mean low water or would fall within the Coastal Primary Sand Dunes/Beaches of Accomack County, NASA will consult with the Marine Resources Commission.	No revision necessary.
34.	Adrianna Ortiz	Wetlands	We understand that due to the need of the expansion and the specific details therein, there is only one alternative action mentioned. However, we feel that there needs to be alternatives listed in detail for various pieces such as possible locations for roads and possible sites for wetland mitigation. The destruction to wetlands is not clearly explained. Acreage is given, but the specific locations and wetland type are missing. We recommend that further details be given on wetland destruction as well as mitigation, along with possible locations of roads to the proposed buildings.	NASA added a new alternative to EA in order to provide an alternative that will minimize the construction of new facilities. NASA is currently completing wetland delineations for the wetlands that would be affected by the proposed action. NASA will submit a JPA for review and approval by USACE, DEQ and local agencies and would obtain the necessary permits (potentially permits under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Virginia Water Protection permit). NASA will avoid and minimize potential impacts to wetlands to the maximum extent practicable and will fully comply	NASA added an additional proposed action alternative to the EA. The EA has been revised to include additional explanation regarding why no other NASA facilities are under consideration for the proposed action as well as to why the proposed action must occur on Wallops Island. The proposed action figures have been updated to show the footprints of all site improvements.

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				<p>with mitigation measures that are determined through the JPA process.</p> <p>The proposed action figures have been updated to include footprints of all site improvements, including locations of new and modified roads.</p>	
35.	Adrianna Ortiz	Proposed Action Description	It is unclear from Figure 5 if the revised launch pad will have a new building associated with it. We recommend that the figure [5] include a drawing of the building if applicable.	While there is a small facility that may be considered a building located underneath the launch ramp (which can be seen on Figure 5 although it is not labeled) that would house equipment (including telecom and electrical) there is no stand-alone building that will be constructed near the launch pad.	No revision necessary.
36.	Adrianna Ortiz	Floodplain	We also recommend that forethought in engineering include mitigating the risk of storm overwash by elevating structures off the ground, and/or enclosing the various tanks (gases and oils) to shield them from the salt water preserving their integrity.	All new facilities on Wallops Island are required to include flood mitigation measures such as elevating critical infrastructure (transformers, HVAC units, etc.) above the flood zone, or elevating the first floor above the flood zone (minimum of 10 feet above mean sea level [amsl]) – the first floor of the Horizontal Integration Facility will be elevated to 11 feet amsl.	The EA has been revised to include more information regarding flood mitigation measures for new construction on Wallops Island.
37.	Adrianna Ortiz	Threatened and Endangered Species	Modifications to the boat dock on the northern end of Wallops are listed, but are lacking detail. The draft EA does not mention the importance to wildlife of the waters surrounding this boat dock, although it does mention the essential fish habitat (EFH) near pad 0-A. We recommend that more detail be given for which part of the boat dock area will be hardened and by what means. An additional figure would be very helpful to support the text. Also we recommend that the National Marine Fisheries Services be consulted to ensure that the marsh adjacent to the boat dock is not classified as EFH.	NASA coordinated with NMFS Protected Resource Division regarding Proposed Action impacts including work at the Wallops Island boat dock. In a letter dated July 8, 2009 NMFS concurred with NASA’s determination that the boat dock improvements “may affect, but is unlikely to adversely affect” Kemp’s ridley, Loggerhead, and Atlantic Green sea turtles with implementation of mitigation measures. Mitigation will include a visual sweep of the waterways adjacent to the boat basin each day prior to activities, stationing of a trained observer to watch for turtles entering the waterways, and installation of pilings by vibratory techniques rather than hammer methods to the greatest extent practicable. Additionally, NASA consulted with NMFS Habitat Conservation Division regarding impacts to EFH. In an email response dated August 11, 2009, NMFS concurred that the proposed bulkhead construction will not result in substantial adverse effects to EFH, managed species or their prey species.	The EA has been revised to describe NMFS consultations and responses.
38.	Adrianna Ortiz	Groundwater	The increase of water usage due to the proposed action was not considered significant since the total usage was still within the constraints of the current permit. We would like to reiterate that the expected monthly increase of 44% and expected annual increase of 25% would still increase the demand to the sole source aquifer. We recommend that the water be conserved as much as possible to ensure future water supplies to Wallops Island.	<i>NASA and MARS will implement water conservation practices in facility design to the maximum extent practicable.</i>	No revision necessary.

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39.	Adrianna Ortiz	Water Quality	From the description given, the deluge basin will be completely filled prior to each launch. After the launch the pH levels of the water within will be tested before being released into an unlined containment pond. From there the water will drain into the surrounding ecosystem until completely drained from the basin. We would like to mention that the surrounding water is very shallow and has a low turnover rate. By introducing large amounts of nitrogen sources this water is likely to undergo eutrophication, leading to other water quality problems such as low oxygen levels (Ryther and Dunstan 1971). Since this area has been labeled as EFH, it is reasonable to assume that degraded water quality will greatly impact the fish community (Kemp et al. 2005). We recommend that other water quality parameters such as total nitrogen or other possible contaminants be tested for before release to the secondary containment pond. We also recommend that potential impacts to water quality be further investigated and minimized where possible.	NASA will coordinate with DEQ regarding permitting of discharges from the deluge basin under the VPDES program. Based on experience at other NASA facilities, no other contaminants (such as nitrogen) would be expected. Other regulators (equivalent to DEQ) have required testing and set guidelines for temperature, total suspended solids, and oil/grease. DEQ will likely require testing of the discharge water including but not limited to pH. NASA will obtain a VPDES permit and following testing and discharge requirements outline in the permit. Air quality modeling discussed in the EA shows that the reaction of the exhaust gas with the deluge water produces the following constituents: water, carbon dioxide, oxygen, hydroxide, carbon monoxide, dioxygen, hydrogen, and perhydroxyl radical (HO ₂). The amount of gas versus liquid is not specified in these constituents. As stated in the EA, weak carbonic acid also may be formed. Total nitrogen is not anticipated to be in the deluge water above background levels in the groundwater.	No revision necessary.
40.	Adrianna Ortiz	Threatened and Endangered Species	Section '4.2.4 Noise', discusses the potential noises from construction, transportation, and launches. Piping plovers are mentioned as a potential receptor and more details are given later. Under the subheading 'sonic booms', it states that noise impacts to wildlife will be discussed below. However, this subject is not brought up until '4.3.2 Terrestrial Wildlife and Migratory Birds, and even there the information given is vague.	NASA is currently informally consulting with USFWS regarding impacts on piping plover, seabeach amaranth, and red knot for the proposed action activities. Although, some adverse impacts are anticipated, they are not expected to be substantial. NASA expects to enter formal consultation with USFWS in the near future.	Section 4.3.3, Threatened and Endangered Species, has been revised to describe additional analysis performed during NASA's current consultation with USFWS.
41.	Adrianna Ortiz	Threatened and Endangered Species	The proposed payload fueling facility building is near the known peregrine falcon (listed by Virginia as threatened (VDGIF 2009)) nest on Wallops Island, VA. We recommend that the potential impact from noise disturbances be further evaluated for other wildlife, especially the peregrine falcon.	NASA has included the species that DEQ recommended adding to Table 16 of the Environmental Assessment (EA), including the peregrine falcon, and any necessary additional impacts discussion in Section 4.	Table 16 of the EA (Threatened and Endangered Species in the WFF Area) has been revised to include additional species, and Section 4 of the EA has been revised to include impacts to the additional species as necessary.
42.	Adrianna Ortiz	Safety	Laser use is brought up and some background information on the various classes of lasers is described. For this specific proposal the class of lasers is not mentioned, nor are the potential impacts to wildlife. We recommend that details be given to better characterize the use and potential risks of lasers.	Because the types of lasers that would be used on spacecraft for specific missions is not known at this time, NASA cannot provide further information or details regarding what types of lasers would be utilized. The range of laser classes that could be utilized on spacecraft is described in the EA.	No revision necessary.
43.	Adrianna Ortiz	Assateague Island Closure	In section '4.3.2 Terrestrial Wildlife and Migratory Birds', under 'launch activities', there is confusion about the closures of Assateague during the	The southern portion of Assateague Island is closed (closures are closely coordinated with the Chincoteague National Wildlife Refuge [CNWR])	Section 4.3.2 Text has been revised to clarify that public launch viewing occurs on northern CNWR.

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			<p>launches. First it states that all launches from Pad 0-B require the closure of the southern end of Assateague Island. It then contradicts by stating that Assateague has become a popular observation location for viewing the launches.</p>	<p>during launches; however, the northern portion of Assateague Island and the CNWR remain open during launches and the public is allowed to view launches from designated areas of Assateague Island.</p>	
44.	Adriannia Ortiz	Assateague Island Closure	<p>The last portion of [‘4.3.2 Terrestrial Wildlife and Migratory Birds’] digresses as it begins to talk about the inputs of educational resources NASA has brought to the community. We recommend that the role of Assateague during launches be clarified and the information regarding education be placed in the appropriate section, ‘4.4.1 Population, Employment and Income’.</p>	<p>Section 4.4.1 Population, Employment and Income already contains the same paragraph discussing the opportunities for education (including CNWR) as Section 4.3.2. NASA agrees that the educational paragraph does not belong under Section 4.3.2 and therefore has removed that paragraph from the section while retaining the paragraph discussing educational opportunities under Section 4.4.1.</p>	<p>The sentences discussing educational opportunities for surrounding areas including CNWR has been deleted from the subheading “Launch Activities” under Section 4.3.2 Terrestrial Wildlife and Migratory Birds.</p>
45.	Adriannia Ortiz	Section 4(f) Lands	<p>Section ‘3.4 Department of Transportation Section 4(F) Lands’ discusses regulations concerning the conversion of publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public or private historical sites to non-recreational lands. Section ‘3.4.2 Public Lands and Refuges’, mentions the validity of these regulations not only to public land holdings, but also to ‘Federal lands’. It is our understanding that the incorporation of ‘federal lands’ in this section is an error. We recommend its removal or clarification if applicable.</p>	<p>NASA agrees that the wording in Section 3.3.8.2 Public Lands and Refuges is confusing and the placement of the words “Federal lands” should be revised to properly imply the intent of the regulations.</p>	<p>The text in Section 3.3.8.2 of the EA has been revised to the following: “Section 4(f) prohibits park and recreation lands, and wildlife and waterfowl refuges from being converted to non-recreational use on Federal lands or other public land holdings (e.g., State forests)...”</p>
46.	Adriannia Ortiz	References	<p>Last we have noticed that approximately one whole page from the reference section (“Section Eight References”) was from a NASA source. We recommend that outside sources be integrated into the document to support in-house research effort findings.</p>	<p>NASA utilized many non-NASA references and information as necessary, and these are listed in Section 8. Several NASA documents (WFF and non-WFF) contained pertinent information for this EA, so the list in Section 8 for NASA related references is large.</p>	<p>No revision necessary.</p>
47.	Virginia Department of Environmental Quality (DEQ) – Tidewater Regional Office (TRO)	Water Quality and Wetlands	<p>According to the DEQ TRO, it appears that the existing Virginia Pollutant Discharge Elimination System (VPDES) permit for Wallops Island may require modification to address any new discharges of process wastewater and industrial stormwater. If the quench water used during rocket launches will require an adjustment to its pH, the discharge of this treated wastewater will require a permit under the VPDES program.</p>	<p>NASA will coordinate with DEQ TRO to obtain a VPDES permit and DEQ requirements for discharge of the deluge water.</p>	<p>The EA has been revised to include a reference to the need for a VPDES permit for the discharge of the deluge water after launches and static fire tests.</p>
48.	DEQ TRO	Water Quality	<p>The DEQ TRO will evaluate whether stormwater runoff from the rocket launch pads should be covered in the [VPDES] permit. The existing VPDES permit for the NASA Wallops Island facility is currently being reviewed by DEQ for reissuance. Therefore, any additional discharges will be included in DEQ’s permit evaluation.</p>	<p>NASA will coordinate with DEQ regarding permitting requirements for stormwater runoff from Launch Pad 0-A and inclusion of any new discharges associated with the Proposed Action in the reissued VPDES permit.</p>	<p>No revision necessary.</p>

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49.	DEQ TRO	Groundwater	<p>DEQ TRO notes that the proposed deluge system will use 100,000 gallons of potable groundwater for each launch or static fire. DEQ TRO believes that this is not the best use of potable water from the Eastern Shore confined aquifer system.</p> <p>DEQ TRO recommends that NASA investigate the feasibility of constructing a shallow water table well for the sole purpose of filling the storage tank for the deluge system, provided a reusable source of water is not available. The deluge system water that would be discharged to the concrete-lined retention basin should be recycled back to the storage tank even if some treatment is necessary. Groundwater would only be needed to make up for water loss after the initial filling of the storage tank.</p>	<p>Alternative systems to groundwater were evaluated including the idea of using saltwater; however, the use of saltwater would drastically increase the degradation of the concrete launch pad structure and the water system as a whole. A shallow water table well would likely contain high concentrations of salt, so based on the reasons above, it was also dismissed.</p> <p>The construction of a dedicated water supply and distribution system from Wallops Mainland to the launch pad would be cost prohibitive.</p> <p>The option of reclaiming the water used during launch from the deluge basin would only be feasible to provide a small fraction of the required water due to evaporation and conversion to steam during engine firing.</p>	No revision necessary.
50.	DEQ TRO	Stream and Wetland Impacts	DEQ recommends that stream and wetlands impacts be avoided to the maximum extent practicable. To minimize unavoidable impacts, DEQ recommends [following standard best management practices].	NASA would avoid and minimize impacts to streams and wetlands to maximum extent practicable under any alternative.	No revision necessary.
51.	DEQ TRO	Stream and Wetland Impacts	NASA must prepare and submit a Joint Permit Application (JPA) for review by DEQ TRO for anticipated project impacts to surface waters and wetlands.	NASA is currently completing wetland delineations for the wetlands that would be affected by the proposed action. NASA will submit a JPA for review and approval by USACE, DEQ and local agencies and would obtain the necessary permits (potentially permits under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Virginia Water Protection permit). NASA will avoid and minimize potential impacts to wetlands to the maximum extent practicable and will fully comply with mitigation measures that are determined through the JPA process.	No revision necessary.
52.	Virginia Department of Conservation and Recreation (DCR)	Stormwater	NASA must prepare and implement an erosion and sediment control plan to ensure compliance with state law and regulations. NASA is ultimately responsible for achieving project compliance through oversight of onsite contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy.	Prior to construction, NASA and/or MARS will apply for a General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater pollution prevention plan (SWPPP) that would include an erosion and sediment control plan. NASA would oversee the implementation of the SWPPP and acknowledges that it is ultimately responsible for compliance with state law and the General Permit.	No revision necessary.
53.	Virginia DCR	Stormwater	[NASA] is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific SWPPP.	Prior to construction, NASA and/or MARS will apply for a General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific SWPPP that would include an erosion and sediment control plan.	No revision necessary.

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54.	DEQ Air Quality Division	Air Quality	NASA should take all reasonable precautions to limit emissions of volatile organic compounds and oxides of nitrogen, principally by controlling or limiting the burning of fossil fuels.	NASA will limit emissions by controlling or limiting the burning of fossil fuels to the maximum extent practicable	No revision necessary.
55.	DEQ Air Quality Division	Air Quality	During construction, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 et seq. of the Regulations for the Control and Abatement of Air Pollution.	NASA will implement dust control best management practices to keep fugitive dust to a minimum utilizing applicable methods outlined in 9 VAC 5-50-60 et seq. of the Regulations for the Control and Abatement of Air Pollution.	No revision necessary.
56.	DEQ Air Quality Division	Air Quality	On May 8, 2009 Wallops Flight Facility submitted a permit application for this project under Article 6 (Minor New Source Review). TRO is currently in the process of determining permit applicability for this project.	Comment noted.	The EA has been revised to state that NASA's permit application for this project under the state's Minor New Source Review program is being reviewed by DEQ.
57.	DEQ Waste Division	Hazardous and Solid Waste	DEQ encourages all construction projects and facilities to implement pollution prevention principles including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.	NASA and MARS will implement pollution prevention measures including reduction, reuse, and recycling of solid waste, and will handle hazardous waste according to applicable state and federal regulation. The generation of hazardous waste will be kept to the minimum necessary.	No revision necessary.
58.	DEQ TRO	Storage Tanks	NASA must comply with the requirements of the DEQ Storage Tank Program.	NASA will fully comply with the DEQ Storage Tank Program requirements.	No revision necessary.
59.	DEQ	Herbicides and Pesticides	DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used.	NASA and MARS will utilize integrated pest management practices and the least toxic pesticides that are effective when using herbicides and pesticides for construction or landscape maintenance.	No revision necessary.
60.	DEQ Department of Conservation and Recreation (DCR)	Natural Heritage Resources	DCR concurs with the finding attributed to the USFWS in the EA (page 66) that negative impacts to the piping plover from the proposed action are unlikely.	Comment noted.	No revision necessary.
61.	DEQ DCR- Department of Natural Heritage (DNH)	Threatened and Endangered Species	DCR-DNH recommends that NASA continue to monitor piping plover populations, continue coordinating with USFWS and DGIF, and contact DCR-DNH for an update on natural heritage information if a significant amount of time passes before the project is initiated.	NASA will continue to monitor piping plover populations and coordinating with USFWS and DGIF. NASA will contact DEQ, including DCR-DNH, if the proposed action changes or a significant amount of time has passed before the proposed action is implemented.	No revision necessary.
62.	Virginia Department of Game and Inland Fisheries (DGIF)	Threatened and Endangered Species	DGIF recommends that the following information and analysis be included in the final EA: fully address impact associated with the proposed expansion upon the habitat requirements of avian species.	Section 4 of the EA (Environmental Consequences) has been updated as necessary to include more information on protected avian species.	Section 4 of the EA (Environmental Consequences) has been updated as necessary to include more information on protected avian species
63.	DGIF	Threatened and Endangered Species	DGIF recommends that the following information and analysis be included in the final EA: update Section 3.2.3 Table 16 to reflect the state status	Table 16 in Section 3.2.3 Threatened and Endangered Species of the EA has been revised to include the species that DEQ recommended and updated to reflect	Table 16 in Section 3.2.3 Threatened and Endangered Species of the EA has been revised to include the species that

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			species [with the information provided in the DEQ comment letter dated 6/18/09].	the state status of some species.	DEQ recommended and updated to reflect the state status of some species.
64.	DGIF	Threatened and Endangered Species	DGIF recommends that the following information and analysis be included in the final EA: fully evaluate the additional species [state-listed bald eagle, sperm whale, sei whale, blue whale, Florida manatee] for impacts associated with the launch and reentry of rockets from MARS in addition to any other activities associated with the proposed upgrades to the facility.	Table 16 in Section 3.2.3 Threatened and Endangered Species of the EA has been revised to include the species that DEQ recommended and updated to reflect the state status of some species; Section 4 of the EA (Environmental Consequences) has been updated as necessary to include the species added to Table 16.	Table 16 in Section 3.2.3 Threatened and Endangered Species of the EA has been revised to include the species that DEQ recommended and updated to reflect the state status of some species; Section 4 of the EA (Environmental Consequences) has been updated as necessary to include the species added to Table 16.
65.	DGIF	Threatened and Endangered Species	DGIF recommends that the following information and analysis be included in the final EA: include the red knot in Section 3.2.3 Table 16	Table 16 in Section 3.2.3 Threatened and Endangered Species of the EA has been revised to include the red knot per DEQ's recommendation; Section 4 of the EA (Environmental Consequences) has been updated as necessary to include the species added to Table 16.	Table 16 in Section 3.2.3 Threatened and Endangered Species of the EA has been revised to include the red knot per DEQ's recommendation; Section 4 of the EA (Environmental Consequences) has been updated as necessary to include the species added to Table 16.
66.	DGIF	Threatened and Endangered Species	DGIF recommends that the following information and analysis be included in the final EA: address the impacts of increased rocket launches on wildlife resources and provide alternatives for operations at MARS that may avoid, minimize or mitigate such impacts (this may include options such as a reduced number of launches during the breeding season).	Additional analysis regarding impacts to both state and federally listed species has been added. NASA has been consulting with USFWS during the preparation of this EA and will adhere to all mitigation and monitoring measures developed during the consultation	Section 4.3.3 Threatened and Endangered Species of the EA has been revised to include additional analysis and details of the ongoing consultation with USFWS.
67.	DGIF	Threatened and Endangered Species	DGIF recommends that the following information and analysis be included in the final EA: detail the number of planned launches from MARS and the effect that an increase in the number of launches, if proposed, may have on nearby wildlife resources (this should also include a detailed discussion about cumulative impacts).	Additional analysis regarding impacts to wildlife including state and federally listed species has been added to the EA.	Sections 4.3.2 Terrestrial Wildlife and Migratory Birds and 4.3.3 Threatened and Endangered Species of the EA have been revised to include additional analysis.
68.	Virginia Department of Forestry (VDOF)	Forest Resources	VDOF finds that the proposed project would have no significant impact on the forest resources of the Commonwealth.	Comment noted.	No revision necessary.
69.	Virginia Department of Mines, Minerals, and Energy (DMME)	Geologic and Mineral Resources	DMME anticipates that the proposed action would have no significant impact to mineral resources.	Comment noted.	No revision necessary.
70.	Virginia Department of Transportation (VDOT)	Transportation	VDOT concludes that any additional traffic or traffic disruptions related to the proposed action would be negligible. Any VDOT land use requirements, lane closures, traffic control or work zone safety issues should be closely coordinated with the Accomack County and the VDOT Accomack Residency Office.	As stated in the EA, NASA would notify and coordinate with the VDOT Accomack Residency Office and Accomack County for any lane closures, traffic control, traffic disruptions, or work zone safety issues.	No revision necessary.

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71.	Accomack County Administrators Office	Proposed Action	The Accomack County Administrators Office fully supports the proposed action.	Comment noted.	No revision necessary.
72.	DEQ Office of Pollution Prevention	Pollution Prevention	DEQ has several pollution prevention recommendations that may be helpful in the construction of the project and operation of the facility [listed in letter dated 6/18/09].	NASA and MARS would implement the pollution prevention measures during construction as appropriate, including the recommendations provided by DEQ.	No revision necessary.
73.	DEQ DMME	Energy Conservation	The proposed facility should be planned and designed to comply with state and federal guidelines industry standards for energy conservation and efficiency.	NASA and MARS would design and implement energy conservation and efficiency measures into building and facility design as appropriate, and would comply with all state and federal guidelines and industry standards.	No revision necessary.
74.	DEQ	Water Conservation	DEQ provides several recommendations that will result in reduced water use associated with the operation of the facility [listed in letter dated 6/18/09].	NASA and MARS would implement the water conservation measures into building and facility design as appropriate.	No revision necessary.
75.	DEQ	Federal Consistency Determination	DEQ concurs that this proposal is consistent with the Virginia Coastal Resources Management Program.	Comment noted.	No revision necessary.
76.	National Park Service Assateague Island National Seashore		We concur with [NASA's] assessment that the proposed action will not result in adverse indirect effects on the cultural landscape and vistas associated with the Assateague Beach Coast Guard Station located on Assateague Island, VA. As you noted, the existing viewshed from the perspective of the Coast Guard Station looking towards Wallops Island has been significantly altered by the previous development of facilities supporting the WFF mission. As such, the proposed new infrastructure will not appreciably alter the existing visual characteristics of the area.	Comment noted.	Text has been added to Section 4.4.4, Cultural Resources, to describe consultation with NPS.
77.	National Park Service Assateague Island National Seashore		Should there be a need to mitigate the impacts of whatever disposition is ultimately selected [regarding the future of the Wallops Station], [NPS] would ask that [NASA] consider the Assateague Beach Station as a potential mitigation option.	Comment noted.	No revision necessary.