



# United States Department of the Interior

NATIONAL PARK SERVICE  
Cape Cod National Seashore  
99 Marconi Site Road  
Wellfleet, MA 02667

IN REPLY REFER TO:  
L7617

June 18, 2008

## Memorandum

To: Northeast Regional Director

From: Superintendent, Cape Cod National Seashore

Subject: Finding of No Significant Impact (FONSI) for Electrical Supply for Herring Cove Beach Facilities

## BACKGROUND

This memorandum records the selection of a management alternative by the National Park Service (NPS) from those presented in the *Environmental Assessment: Electrical Supply for Herring Cove Beach Facilities*. The decision is made after public and interagency review and comment, careful consideration of environmental effects, legislative mandates, applicable regulations, and NPS policy.

The National Environmental Policy Act (NEPA) requires consideration of the environmental effects of proposed federal actions. The act also ensures that environmental information is available to public officials and the public before decisions are made and actions are taken. The NPS prepared the Environmental Assessment (EA) in compliance with the NEPA, the Council on Environmental Quality (CEQ) regulations, and the NPS Director's Order-12 (DO-12). The EA documents that the alternatives considered for the proposed electrical supply improvements for the Herring Cove Beach facilities. It analyzes the potential impacts related to the proposed action, as well as the No Action Alternative, and summarizes potential environmental consequences of implementing the alternatives. This memorandum signals completion of the EA process as required by NEPA.

## SUMMARY OF PROPOSED ACTION

The purpose of the proposed action is to address the need to upgrade the present deteriorating underground electric supply line at Herring Cove Beach facilities at Cape Cod National Seashore

(CCNS). The current supply line extends approximately two miles from Provincetown and is in need of direct replacement or provision of an alternate means of electrical supply.

The park needs to provide reliable electrical power to Herring Cove facilities, maximizing use of renewable and non-greenhouse gas producing energy technologies where possible. The purpose of this project is to remedy the ongoing deterioration of the electrical supply to Herring Cove in a manner that maximizes use of renewable and non-greenhouse gas producing technologies.

The facilities at Herring Cove Beach incorporate a two story bath house, a snack bar located next to the bath house, and a fee booth located at the entrance to the parking lot. The main section of the bath house is used by lifeguards, and there are restroom and changing room areas on either end of the building which are open for public use.

The present electric supply line for Herring Cove Beach starts in east Provincetown and extends underground along Moors Road from a utility pole approximately two miles to the site. This supply line was installed over 30 years ago and has deteriorated to the point that electric service is frequently interrupted from failures in the line. The line terminates at a pad-mounted transformer located on site near the bath house, and branches to three separate meters. The electricity sent to the site is single phase and 120/240V<sup>1</sup>. The current power line poses a potential safety threat to visitors and staff and/or a disruption in services in the event of an electrical fire. As a result, there is a need to improve the electrical supply facilities currently existing at Herring Cove Beach.

Considering the mandate of Executive Order 13423, (Strengthening Federal Environmental, Energy, and Transportation Management), requiring federal agencies to “lead by example in advancing the nation’s energy security and environmental performance,” CCNS has taken into the account the goal of increasing the purchase of electric generating equipment driven by natural renewable power source and reuse of generated power. The EA examined the NPS preferred alternative in addition to one other action alternative, the solar only option, and the no action alternative.

## **ALTERNATIVES CONSIDERED**

The EA comprehensively analyzed Alternative One, a wind and solar hybrid system, Alternative Two, a solar only option, and a No Action Alternative.

Under the “No Action” alternative, the existing electrical supply line would not be replaced and no renewable energy application would be installed to supply electrical needs of Herring Cove Beach facilities. The continued electrical service would be dependent on the capability of the line to provide power. Over time, the existing appliances would be replaced with energy-efficient and gas models.

Under Alternative One, a 10.1 kilowatt Wind and Solar Photovoltaic (PV) Hybrid system with a 2.64 kW solar PV array, 7.5 kW wind turbine, 8.5 kW Liquid Petroleum Gas generator setup

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<sup>1</sup> Antares Group Incorporated, 2007.

(LPG genset), 11 kW inverter, and 84 kWh battery storage would be installed. The system is based on a packaged system offered by Bergey Windpower Company, Norman, Oklahoma (with several certified dealers in Massachusetts). The small-scale wind turbine would be approximately 75 feet in height with 22 foot diameter blades, for an overall elevation of 91 feet above sea level. The land-based, non-commercial turbine would not have lights or guy wires.

Alternative Two would entail installation of solely the *10 kilowatt Solar PV Hybrid*, with a 10.0 kW solar PV array, 8.5 kW LPG genset, 11 kW inverter, 252 kWh battery storage. This system is designed to maximize the power supplied by solar panels, and the solar array is larger than the array proposed in Alternative One. The balance of the power would be provided by the propane (LPG) fueled genset. All solar PV panels from this system will fit on the 2-story portion of the roof of the bath house building, but only if they are mounted flat or with a very slight angle. If the solar system is not operational for any reason, the existing power line would be used for backup until complete line failure, at which point bio-diesel and propane options would be considered. The solar only option is preferred to no action and is the environmentally preferred alternative (see below).

An alternative considered but rejected was underground electrical line replacement. Under this alternative, the current electric power line-running underground along the side of Moors Road to Herring Cove facilities would have been replaced. In the interest of installing renewable technologies where appropriate and given consideration of the various impacts examined in this EA, it was determined that even with the planned reduction of electric consumption loads, in a cost-benefit analysis, underground electric line replacement is not considered a cost-effective and environmentally beneficial long-term solution.

## **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The CEQ regulations implementing NEPA and DO-12 require the NPS to identify the “Environmentally Preferred Alternative” in all environmental documents, including EAs. The Environmentally Preferred Alternative is the alternative that causes the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources (Federal Register, 1981).

In this case, Alternative Two, the solar only alternative, is the Environmentally Preferred Alternative because it is a rooftop installation.

## **PREFERRED ALTERNATIVE SELECTION**

The NPS identified Alternative One, the wind and solar photovoltaic (PV) hybrid system, as the preferred alternative in the EA, and hereby selects this alternative to serve the electric supply need at Herring Cove Beach facilities with its associated adaptive management plan. Implementation of the wind portion of the selected alternative is conditional upon the outcome of pre-construction surveys that will assess use of the area by sensitive bird species. If these surveys indicate that sensitive species are likely to be adversely affected by construction of the wind turbine, the wind turbine will not be built.

The NPS identified Alternative One as the Preferred Alternative because this action would best balance long-term preservation of resources, visitor experience, and socioeconomic concerns. Under this alternative, CCNS management will adaptively manage the wind turbine to ensure that impacts to state and federally listed species are avoided, and that impacts to bats and other bird species are avoided or minimized. The two phase adaptive management plan is described more fully in Appendix A of the EA, and provides for: (I) preliminary assessment of bird use and the Herring Cove airspace and, (II) subsequent monitoring and possible adjustment to wind turbine operations.

## **RATIONALE FOR SELECTING ALTERNATIVE ONE**

The NPS selected the Alternative One based on the following criteria:

***Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an EIS:***

No major adverse or beneficial impacts were identified that would require analysis in an environmental impact statement. No major impacts to air quality, soundscapes, water quality, land use, energy resources, geology, marine and estuarine resources, lightscapes, Indian trust resources, floodplains, scenic resources, public health or safety, or prime and unique farmlands were identified.

CCNS is under the mandate of Executive Order 13423, (Strengthening Federal Environmental, Energy, and Transportation Management), requiring federal agencies to “lead by example in advancing the nation’s energy security and environmental performance” by achieving a number of goals, including increased purchases of renewable power sources and increased usage of renewable power. Also considered were CCNS long-term goals of increasing usage of renewable technologies in order meet the mandate of the abovementioned Executive Order 13423 and move towards being a Climate Friendly Park (CFP). The CFP Program is a collaboration of the National Park Service and the U.S. Environmental Protection Agency that provides national parks with a system approach to manage climate change. The program aims to provide national parks with comprehensive support to address climate change both within park boundaries and the surrounding community.

Under the Selected Alternative, there would be no adverse cumulative impacts upon cultural resources. The overall impact of a varied renewable electrical production system would have multiple benefits upon public use, surrounding community, and park management and operations.

The adverse impact of the wind turbine component of this alternative upon birds and bats is anticipated to be minor since turbine operations would be managed in response to impact monitoring in the Adaptive Management Plan (Appendix A of the EA).

***Degree of effect on public health or safety:***

The Selected Alternative will not have an adverse effect on public health or safety. The Federal Aviation Administration has signified that the proposed wind turbine does not exceed obstruction standards and would not be a hazard to air navigation,” with the condition that if, as recommended, marking and/or lighting for aviation safety are accomplished, they be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

The combination of both wind and solar is preferred in an effort to be most efficient and demonstrating the presence of varied types of renewable power sources. The use of renewable energy technologies would have a minor long-term beneficial impact on air quality as it would be a non-greenhouse gas emitting means of power generation, which would be an indirect public health benefit.

***Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:***

Historic or cultural resources, wetlands, prime or unique farmlands and wild and scenic rivers will not be affected. There will be no long-term impacts to ecologically critical areas resulting from the Selected Alternative.

The State Historic Preservation Officer (SHPO) reviewed the EA and on May 20, 2008 concurred with the NPS stated determination of “No Adverse Effect for the Installation of Solar Panels and Wind Generator at Herring Cove Beach Facilities.”

***Degree to which effects on the quality of the human environment are likely to be highly controversial:***

There were no highly controversial effects identified during either preparation of the EA or the public review period.

***Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks:***

There were no highly uncertain, unique or unknown risks identified during either preparation of the EA or the public review period. The Selected Alternative would provide an example of zero-net emission source of electricity in the park. In addition to direct environmental benefits, the wind and solar alternatives would result in indirect beneficial effect by showcasing and providing educational information about renewable power opportunities.

***Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:***

The Selected Alternative neither establishes a NPS precedent for future actions with significant effects nor represents a decision in principle about a future consideration.

***Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:***

Impacts of the Selected Alternative identified in the EA were to natural resources, public use, park management, and socioeconomic and cultural resources. As described in the EA there are no other projects that are being considered for cumulative impacts. Other recent and upcoming NPS activities in the Provincetown and Truro areas of the park include some transportation-related construction activities that have undergone NEPA evaluation, such as the environmental assessment of rehabilitation of the Province Lands Bike Trail, and a categorical exclusion for the Herring Cove area road and parking reconfigurations as assessed by Federal Highway Administration- Massachusetts Division.

Another potential land-based wind-turbine related project by NPS is an upcoming wind feasibility study planned for the Highlands Center at Cape Cod National Seashore, located in North Truro. There is no current proposal for this facility. An environmental assessment will be conducted once the study is underway. The park is considering undertaking a separate planning process for dune shack use and management in the Dune Shacks of the Peaked Hill Bars Historic District (2 miles distant from the site of this proposed action); a separate NEPA document is expected when funding becomes available for a civic engagement initiative. Cumulative effects with these actions, therefore, are not being considered.

***Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:***

The Selected Alternative will not adversely affect districts, sites, highways, structures or objects listed on the National Register of Historic Places nor cause loss or destruction of significant scientific, cultural, or historical resources.

On February 19, 2008, the Advisory Council on Historic Preservation (ACHP) acknowledged receipt of NPS notification regarding the preparation of the Electrical Supply for Herring Cove Beach Facilities EA. As per ACHP regulations 36 CFR Part 800, SHPO and the Wampanoag Tribe of Gay Head-Aquinnah were notified of the NPS intention to use the NEPA process to comply with Section 106 of the National Historic Preservation Act. A copy of the EA was sent to both the Mashpee Wampanoag Tribal Council, Inc., the Wampanoag Tribe of Gay Head-Aquinnah, and SHPO on May 8, 2008.

The NPS has not received written comment from either tribe on the Herring Cove EA; however the NPS continues to consult regularly with both tribes on ongoing issues at the park.

***Degree to which the action may adversely affect an endangered or threatened species or its critical habitat:***

Piping plovers (*Charadrius melodus*) and roseate terns (*Sterna dougalii*), federally listed as threatened and endangered, respectively, both occur in the general vicinity of Herring Cove, however their use of the air space at the project site is unknown. To ensure that adverse effects to federally listed species are avoided, the Selected Alternative incorporates a two part adaptive management strategy described in Appendix A of the EA. Based on the provisions of the adaptive management plan, the NPS determined that implementation of the Selected Alternative would not be likely to adversely affect federally listed species. Further, the NPS requested U.S. Fish and Wildlife Service (FWS) concurrence with this determination in a letter dated May 8, 2008. Through a subsequent coordination, FWS expressed concerns regarding reaching a determination of likelihood of effect in advance of the pre-construction surveys. Although FWS agree that the potential for impacts seems to be very low, FWS indicated that FWS is unable to determine the likelihood of effects in absence of information on bird flight in the area. The NPS understands and concurs with FWS's concerns and analysis. As a result, we are revising the findings and conclusions in the EA regarding potential effects to federally listed species as follows:

Based on adaptive management element of the Selected Alternative, the NPS anticipates that implementation of the Selected Alternative is not likely to adversely affect federally listed species. However, results from the planned pre-construction surveys will need to be considered before this determination can be made. Following completion of these surveys in the fall of 2008, the NPS will assess the results in coordination with FWS and NHESP. If the data support a determination of "not likely to adversely affect" plovers and roseate terns, the NPS will request informal consultation and confirmation of concurrence from FWS. If the data do not support a determination of "not likely to adversely affect" plovers and terns, the turbine will not be constructed. If pre-construction surveys indicate that the turbine is not likely to adversely affect species of concern, the adaptive management plan also includes monitoring and responsive management to ensure that effects to birds and bats are avoided. This could include adjusting when the turbine is operational based on weather conditions, time of day, or time of year.

In a June 6, 2008 letter, the Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife identified the following species of special concern in the vicinity of the proposed projects under the Selected Alternative: Eastern Box Turtle, Common Tern, Arctic Tern, Least Tern, and the following threatened species: Eastern Spadefoot Toad and the federally protected Piping Plover. In the letter, NHESP signifies that based on review of the project, there is no anticipation that the Selected Alternative will have more than minimal impacts to state-listed species and their habitats. In addition, FWS wrote, "We support the implementation of an adaptive management plan, including the proposed pre- and post-construction surveys which shall determine any impacts of the proposed turbines."

***Whether the action threatens a violation of federal, state, or local environmental protection law:***

The Selected Alternative violates no federal, state, or local environmental protection laws.

## **ENVIRONMENTAL CONSEQUENCES**

The Environmental Assessment provides more detail on the environmental consequences of the selected alternatives and alternatives not selected.

Environmental consequences of the alternatives not selected:

Under the No Action alternative, the existing electrical supply line would not be replaced, no new construction would occur and facilities would not be changed. No renewable energy application would be installed to supply electrical needs of Herring Cove Beach facilities. There would be no adverse impacts upon natural or cultural resources. There would be potential long-term direct adverse impacts upon public use, surrounding community, and park management and operations.

Under Alternative Two, the solar only option, there would be no adverse cumulative impacts upon natural or cultural resources. The overall impact of a varied renewable electrical production system would have multiple benefits as described above upon public use, surrounding community, and park management and operations. The solar only option is the environmentally preferred alternative because it is a rooftop installation alone.

Environmental consequences of Selected Alternative:

Under Alternative one, the wind and solar hybrid system, there would be no adverse cumulative impacts upon cultural resources. The overall impact of a varied renewable electrical production system would have multiple benefits as described above upon public use, surrounding community, and park management and operations. The adverse impact of the wind turbine component of this alternative upon birds and bats is anticipated to be minor since turbine operations would be managed in response to impact monitoring.

It is projected that such small sized, land-based turbines as the scale proposed in the Selected Alternative are not enough equipment to form a long-term adverse effect to migration patterns or bird populations, thus indirect effects to birds and bats are anticipated to be negligible. The solar panels in the Selected Alternative would present no adverse effect to wildlife because of their stationary position atop the roof of the bathhouse.

Based on the observations of avian interactions with small turbines at other sites, it appears that the potential for the Herring Cove turbine to have more than negligible impacts to birds is quite low, and the potential for impacts to bats would seem virtually nonexistent. However, the habitats and species in the vicinity of several National Wildlife Refuge turbines where data was reported and considered for this analysis (Missisquoi National Wildlife Refuge in Vermont and the Eastern Neck National Wildlife Refuge in Maryland) are different than those in the vicinity of Herring Cove. Also, although the species of concern for the Massachusetts Maritime Academy's turbine (Buzzards Bay, MA) are substantially similar to Herring Cove, the ecological setting is quite different. To ensure that the turbine's impacts to birds and bats are minimal, and that adverse effects to state and federally listed species are avoided, turbine operations will be



guided by a two-phase adaptive management approach. The first phase will focus on assessing bird use in the area of the proposed turbine, and the second integrates avian monitoring into turbine management to ensure that turbine operations are modified or shut down well before any impacts approach the level of having an appreciable effect on the wildlife resource.

Therefore, the potential minor adverse impacts to birds and bats in the Selected Alternative would be limited by managing turbine operations in response to monitoring results.

## **IMPAIRMENT OF PARK RESOURCES OR VALUES**

The NPS has determined that implementation of the Selected Alternative will not constitute an impairment to the park's resources or values or violate the NPS Organic Act. This conclusion is based on a thorough analysis of the environmental impacts described in the EA, and the professional judgment of the decision-maker guided by the direction in *NPS Management Policies 2001*. It has been determined that there will be no impairment to park resources or values based on the following considerations.

As described in the EA, the Selected Alternative is considered to beneficially impact park values. Further, implementation of the Selected Alternative will not result in major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Cape Cod National Seashore; (2) key to the natural or cultural integrity of the seashore or to opportunities for enjoyment of the seashore; or (3) identified in the seashore's general management plan or other relevant NPS planning documents as being of significance.

## **PUBLIC INVOLVEMENT AND INTERAGENCY INVOLVEMENT**

On May 23, 2007, seashore staff held a public information meeting at Provincetown Town Hall. The purpose of the meeting was to share information and accept suggestions on various planning and construction projects, including improvements to the Herring Cove Bathhouse, in the Provincetown and Province Lands areas. The public was informed of this meeting via a press release of April 19, 2007.

In January 2008, the park Superintendent and Chief of Maintenance met with Provincetown Selectmen and town management officials in order to discuss public feedback and the need to upgrade the present deteriorating underground electric supply line at Herring Cove Beach facilities. No concerns or objections were raised by Town selectmen or the public present at these meetings.

The EA was released on May 8, 2008. The NPS sent out 96 copies of the EA and letters to interested parties, including local public libraries. Public notice regarding the availability of this Environmental Assessment was distributed to the media and interested parties via press release on May 8, 2008. There was a 30-day public comment period from the date of this distribution to June 7, 2008 to receive public and agency feedback on the plan. No general public comment was received on the EA. The park received no comments by mail or email and one comment from Massachusetts Aeronautical Commission (MAC) on the NPS park planning website (PEPC).

In the comment, the MAC requested that Cape Cod National Seashore staff submit an airspace review form with MAC and separately with the Federal Aviation Administration (FAA).

CCNS had submitted these required forms to MAC and the FAA, and received a December 3, 2007 determination and December 14, 2007 letter from MAC, signed by Airport Engineer Joanne M. Ruddy, signifying that the proposal, “is not subject to further action required by MAC laws or regulations,” but that MAC, “may offer additional comments after considering FAA’s determination of its impact to a public use airport or NAVAID facility through the aeronautical study process.”

On May 7, 2008, the FAA completed a “Determination of No Hazard to Air Navigation” for project ASN 2007-ANE-2068-OE, Cape Cod National Seashore Herring Cove, Provincetown. OE Airspace Specialist Mike Blach signifies in the accompanying letter that the proposed structure, “does not exceed obstruction standards and would not be a hazard to air navigation,” with the condition that if, as recommended, marking and/or lighting for aviation safety are accomplished, they be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

No objections to the EA were received from SHPO, the Tribal Historic Preservation Officer of the Wampanoag Tribe of Gay Head-Aquinnah, Mashpee Wampanoag Tribal Council, Inc., USFWS, Massachusetts Division of Wildlife & Fisheries (MDFW), and Coastal Zone Management (CZM).

As described in more detail on page 7 of this document, the Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife responded with a June 6, 2008 letter pointing out species of concern in the area, supporting the adaptive management plan, and signifying no more than minimal impacts expected to state-listed species and their habitats under the plan.

The Coastal Zone Management Act requires that federal agencies adhere to state Coastal Zone Management Plans when conducting projects or activities that affect the coastal zone. On June 6, 2008, the Massachusetts Office of Coastal Zone Management determined that the activities associated with the proposed electrical improvements, while in the defined Massachusetts Coastal Zone, “fall below the thresholds CZM generally uses to require review under...federal consistency provisions.” Thus, a formal decision regarding consistency with CZM enforceable program policies was not necessary.

NSTAR electric utility company submitted a letter on June 6, 2008, stating, “NSTAR supports our customers who want to connect with clean energy sources to our system. As such, we believe that the proposed solar photovoltaic system would be an ideal application for the Herring Cove Beach facilities.” While not opposed to the proposed installation of the proposed wind turbine, NSTAR recommended consideration with Cape Light Compact of other renewable energy sources that would produce electricity. NSTAR also expressed the belief that, “replacing the electric line can be done in a cost effective and environmentally friendly manner using horizontal directional drilling, and that upgrading the electric line will ultimately be beneficial to the beach facility for the unforeseeable future.” The NPS concludes that horizontal drilling is not desirable

to provide the electric service replacement due to cost efficiency and environmental considerations in relation to Executive Order 13423 mandates previously cited in this document.

## FINDING OF NO SIGNIFICANT IMPACT

This FONSI is based on the EA for Electrical Supply for Herring Cove Beach Facilities. The NPS has fully evaluated the information and analysis contained in the EA, and has considered comments on the EA received by the public, reviewing agencies, and others. Based on these considerations, the NPA has determined the EA adequately and accurately addresses the environmental issues and impacts of the proposed project. The NPS has fully evaluated and identified Alternative One as the preferred alternative, and used the criteria of 40 C.F.R. § 1508.27 to determine the significance of the selected action by examining its context and intensity. On this basis, the NPS is determining that the Selected Alternative does not constitute a major federal action significantly affecting the quality of the human environment. Adverse environmental impacts that could occur are minor or moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, historic properties either listed in or determined eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

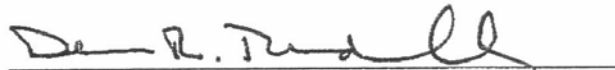
Recommended:



George E. Price, Jr.  
Superintendent, Cape Cod National Seashore

6/18/08  
Date

Approved:



Dennis R. Reidenbach  
Regional Director, Northeast Region

7/1/08  
Date

### References

- Environmental Assessment: Electrical Supply for Herring Cove Beach Facilities. 2008. Cape Cod National Seashore. 38pp. (on file at CCNS)
- Compilation of Public and Interagency comments (on file at CCNS)
- Cape Cod National Seashore Renewable Power Feasibility Study Final Report, Herring Cove Beach Facilities, Contract Reference: 20.002.01 Prepared by Antares Group, Inc., March 9, 2007 (on file at CCNS)