



May 15, 2012

Mr. Michael P. Halpin
Program Administrator
Office of Siting Coordination
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Agency Report for the Turkey Point Nuclear Power Plant Expansion (Units 6 and 7) – Power Plant and Non-Transmission Associated Facilities Site Certification Application

Dear Mr. Halpin:

Pursuant to 403.507(2)(a), Florida Statute (F.S.), the South Florida Regional Planning Council (SFRPC) presents the following Agency Report with regard to the proposed Turkey Point Power Plant and Non-Transmission Associated Facilities.

INTRODUCTION

Florida Power and Light (FPL) submitted a Site Certification Application (SCA) to the Florida Department of Environmental Protection (DEP) on June 30, 2009. If approved, the application would allow FPL to expand nuclear energy production at its Turkey Point facility in Miami-Dade County. The proposed project consists of the construction of two new 1,100 megawatt (mW) nuclear reactor Units, 6 and 7, and supporting facilities; as well as the placement of new transmission lines. Although power plant siting and transmission lines are treated as separate processes in Chapter 403, F.S., they have been combined into one application by the Applicant. The review process has been conducted on separate but parallel tracks. The transmission lines were reviewed in an earlier timeframe than the power plant, although the transmission lines will only be necessary if the Unit 6 and Unit 7 installations are approved.

Siting approval is generally made through a Final Order of Certification signed by the Secretary (agency head) of DEP. If the application is contested, Certification Hearings will be held. The presiding Administrative Law Judge (ALJ) issues a Recommended Order that contains findings of fact and conclusion of law about the matters raised at the hearing or in the application, along with the proposed Conditions of Certification, if certification is recommended. The Recommended Order is submitted to DEP for presentation to the Siting Board (Governor and Cabinet). The Board will decide whether to license both the transmission lines and new electrical power generation plants in one proceeding, pursuant to the State Power Plant Siting Act (PPSA), Chapter 403, Part II, (F.S.).

The South Florida Regional Planning Council is one of several affected agencies actively involved in the review and comment of the application, as identified in §403.507(2)(a) and §403.526 F.S. This process provides the Council the opportunity to assess the project's consistency with the *Strategic Regional Policy Plan for South Florida (SRPP)*. The Council's report contains recommendations to address impacts of the proposed project.

PROJECT DESCRIPTION

The two nuclear generating units with supporting buildings, facilities and equipment are proposed to be located due south of the existing Turkey Point Units, on a parcel currently within the industrial wastewater /cooling canal system. Associated facilities proposed in or around the new or existing plant units include parking areas; a nuclear administration and training building; a reclaimed water treatment facility and treated reclaimed water delivery pipelines; radial collector wells and delivery pipelines for cooling water backup; an equipment barge unloading area; potable water pipelines; and access roads and bridges. A new electrical substation (Clear Sky) will be constructed on the Turkey Point site. A 230-kilovolt (kV) transmission line also will be needed to connect the new substation to the existing substation on the plant property.

SFRPC REVIEW AND EVALUATION

At its meeting on May 7, 2012, the Council identified issues that merit additional attention because of their potential impacts to the Region, in accordance with §403.5252 and §403.526, F.S., and public comments. After a careful review of the power plant and associated facilities as described in the SCA, and FPL's responses within the scope of five completeness requests for additional information, the Council reviewed how the proposed project would affect the 22 priority issues of the Region that form the *SRPP*. An important component of the *SRPP* relates to intergovernmental coordination, which enables the Council to address issues that exceed the jurisdictional boundaries (both spatial and substantive) of our individual local government and/or agency partners in the region. This intergovernmental coordination role is especially relevant to such issues as natural resources of regional significance, habitat preservation, water quality and public safety.

Council staff recognizes that, in some cases, our partner agencies have both the technical expertise and the regulatory authority to review specific issues in the application and establish appropriate conditions for approval of the proposal. In the case of the Turkey Point expansion project, these partner agencies include Miami-Dade County, the South Florida Water Management District, the Florida Department of Environmental Protection and the US Army Corps of Engineers. The Council's review should reflect the outstanding issues of those partners in order to ensure the comprehensiveness of the overall review at the regional level and bring a more integrated view of any unresolved or unaddressed concerns. The Council, recognizing this role, requested an extension for submittal of its Agency Report to coincide with the date Miami-Dade County is scheduled to submit its report: August 15, 2012. The extension granted, to May 15, 2012, leaves certain issues pending at this time, and those are reflected in the Council's Agency Report. The relevant areas that may be affected by the proposed project are: **Workforce; Natural Resources; Water Quality; and Public Health, Safety, and Quality of Life.**

ISSUE AND IMPACT ANALYSIS

Work Force

The Council recognizes the economic impact the new units and facilities will have on the Region. The SCA indicates the Turkey Point expansion will provide employment opportunities to the Region. Approximately 2,430 workers skilled laborers will be needed for plant and associated facility construction and at the peak of construction activity there will be 3,600 workers. FPL anticipates that 610 of those construction jobs would be held locally and the remaining 1,820 workers would migrate into Miami-Dade County. Once Units 6 and 7 are constructed an estimated 806 employees will be needed to operate the new facilities. FPL has partnered with Miami-Dade College to have a trained workforce.

Goal 1 Invest in the youth and workforce of the Region by providing quality education, workforce training, and targeted job creation.

Policy 1.5 Provide an adequate, affordable, and accessible support system for the Region's diverse workforce, including housing, childcare, transportation, and language training.

Policy 1.9 Encourage and expand partnerships among education providers, local governments, and the business community to develop curricula and provide training programs for the Region's workforce.

Policy 1.10 Encourage youth and workforce members to consider a diverse range of educational programs, including vocational and technical training, certificate programs, and two-year associate degrees.

Goal 2 Increase employment opportunities and support the creation of jobs with better pay and benefits for the Region's workforce.

Policy 2.6 Promote the location of publicly supported services within walking distance of regional transit services to make it possible for residents without access to private transportation to use those services in a convenient and timely fashion.

Protection of Natural Resources of Regional Significance

The proposed construction of two new nuclear reactors (Units 6 and 7) is expected to disturb more than 300 acres of permanent wetlands, some of which are situated within a mangrove protection area along Biscayne Bay and adjacent to Biscayne National Park, both identified by the *Strategic Regional Policy Plan for South Florida (SRPP)* as Natural Resources of Regional Significance.

The Council is concerned about the potential impacts of the proposed project on vegetation, wildlife, wetlands and environmentally endangered lands. FPL has proposed mitigation options for wetlands to offset impacts from the plant construction. One mitigation strategy is to purchase mitigation credits from FPL's Florida Everglades Mitigation Bank (EMB) to offset unavoidable impacts to the areas south and east of the Turkey Point Cooling Systems. FPL will also mitigate losses to wetland habitat through a combination of wetland restoration, enhancement and preservation initiatives.

Goal 11 Encourage and support the implementation of development proposals that conserve the Region's natural resources, rural and agricultural lands, green infrastructure and:

- Utilize existing and planned infrastructure where most appropriate in urban areas;
- Enhance the utilization of regional transportation systems;
- Incorporate mixed-land-use developments;
- Recycle existing developed sites; and
- Provide for the preservation of historic sites.

Goal 14 Preserve, protect, and restore Natural Resources of Regional Significance.

Policy 14.1 Address environmental issues, including the health of our air, water, habitats, and other natural resources, that affect quality of life and sustainability of our Region.

Policy 14.3 Protect native habitat by first avoiding impacts to wetlands before minimizing or mitigating those impacts. Development proposals should demonstrate how wetland

impacts are being avoided and what alternative plans have been considered to achieve that objective.

- Policy 14.7 Restore, preserve, and protect the habitats of rare and state and federally listed species. For those rare and threatened species that have been scientifically demonstrated by past or site specific studies to be relocated successfully, without resulting in harm to the relocated or receiving populations, and where *in-situ* preservation is neither possible nor desirable from an ecological perspective, identify suitable receptor sites, guaranteed to be preserved and managed in perpetuity for the protection of the relocated species that will be utilized for the relocation of such rare or listed plants and animals made necessary by unavoidable project impacts. Consistent use of the site by endangered species, or documented endangered species habitat on-site shall be preserved on-site.
- Goal 15 Restore and protect the ecological values and functions of the Everglades Ecosystem by increasing habitat area, increasing regional water storage, and restoring water quality.**
- Policy 15.1 Encourage land uses and development patterns that are consistent with Everglades Ecosystem restoration and with the protection of Natural Resources of Regional Significance.
- Goals 20 Achieve long-term efficient and sustainable development patterns that protect natural resources and connect diverse housing, transportation, education, and employment opportunities.**
- Policy 20.1 Provide for the compatibility of adjacent land uses and assess the impacts of land uses on the surrounding environment in comprehensive plans and development regulations.
- Goal 21 Assume a leadership role to enhance regional cooperation, multi-jurisdictional coordination, and multi-issue regional planning to ensure the balancing of competing needs and long-term sustainability of our natural, developed and human resources.**
- Policy 21.1 Implement better coordination of land use, natural resource, and infrastructure planning, with special attention to regional ecosystem management approaches.

Protection of Water Quality

Water is an important feature of the new plant's operations. Proposed water elements include six circulating water cooling towers, a reclaimed water treatment facility, radial wells that will supply approximately 86,400 gallons per minute (gpm) as a backup water source to the cooling towers, and water supply delivery pipelines for the radial collector wells and treated reclaimed water.

The cooling water sources are a combination of reclaimed water, saltwater and potable water. Reclaimed water is the primary source for the circulating water system, with saltwater being the secondary source. Potable water will be used for the service water system. Although radial well water will not be treated, chemicals may be added (to control the pH level and prevent scaling). Cooling tower effluent and other site wastewater streams will be injected into deep wells. Stormwater runoff will be routed to the wastewater facility serving existing Units for treatment.

The radial collector wells are designed to withdraw water from underneath Biscayne Bay, as the backup water source for the cooling towers. The Council is concerned that the radial well operations have the

potential to affect regional groundwater levels, exacerbate saltwater intrusion, increase salinity levels, and ultimately threaten the Biscayne Aquifer, potable water supplies and Everglades restoration efforts.

Goal 7 Protect, conserve, and enhance the Region's water resources.

Policy 7.1 Develop a more balanced, efficient, and ecologically sustainable allocation and reservation of the water resources of the Region.

Policy 7.6 Ensure that the recharge potential of land is not reduced as a result of a proposed modification in the existing uses by incorporation of open space, previous areas, and impervious areas in ratios which are based upon analysis of on-site recharge needs.

Policy 7.7 Require all inappropriate inputs into Natural Resources of Regional Significance to be eliminated through such means as redirection of offending outfalls, treatment improvements, or retrofitting options.

Policy 7.9 Restore and improve water quality throughout the system by:
a. requiring stormwater treatment and management;
b. protecting wetlands, native uplands, and identified aquifer recharge areas; and
c. implementing best management practices, such as utilization of low phosphorus fertilizers.

Policy 7.11 Encourage the implementation and further development of water conservation measures.

Policy 7.12 Encourage additional water conservation techniques, which discourage excessive use of infrastructure and services in the Region while considering social and economic equity standards.

Goal 15 Restore and protect the ecological values and functions of the Everglades Ecosystem by increasing habitat area, increasing regional water storage, and restoring water quality.

Policy 15.1 Encourage land uses and development patterns that are consistent with Everglades Ecosystem restoration and with the protection of Natural Resources of Regional Significance.

Policy 15.2 Restore natural volume, timing, quality, and distribution of water to the Everglades, Florida Bay, Biscayne Bay, other estuaries, and the Atlantic Ocean by:
a. implementing structural and operational modifications to the Central and Southern Florida Project including Modified Water Deliveries to Everglades National Park, the C-111 Project, and the Comprehensive Everglades Restoration Plan;
b. implementing the East Coast Buffer/Water Preserve Areas; and
c. implementing the Lower East Coast Water Supply Plan so that the needs of the natural system are met consistent with ecosystem restoration.

Goal 16 Enhance and preserve natural system values of South Florida's shorelines, estuaries, benthic communities, fisheries, and associated habitats, including, but not limited to, Florida Bay, Biscayne Bay, tropical hardwood hammocks, and the coral reef tract.

Public Health, Safety and Quality of Life

The Council is concerned that the proposal to build two new reactors at the Turkey Point site has not adequately assessed the potential impacts of sea level rise (SLR) over the useful life of the facilities. This concern has two dimensions: (1) the increasing hazard represented by storm events on the reactors and associated facilities as sea level increases in the coming 40-60 years; and (2) the impact of rising sea level on all of southern Miami-Dade County, including areas that host essential, auxiliary facilities and provide access to the new generating facilities.

FPL plans to raise the site of the proposed new reactors to a level that is above any of the levels projected by current sea level rise studies. However, there is insufficient discussion in the Application of the potential impacts of sea level rise on any of the associated facilities or on the potential users of FPL electricity, both of which are relevant to the decision to place the new reactors at the proposed site in the Coastal High Hazard Area. The useful life of the proposed reactors (40 years, with an option to be renewed for up to an additional 20 years), puts the potential timeframe for their operation to 2080.

Consequences of sea level rise for the site (the reactors and associated facilities) and the surrounding region should be more thoroughly evaluated. The possible effects of sea level rise on auxiliary facilities at Turkey Point, including reclaimed water processing and waste water facilities, fuel storage facilities, the roadway network that will ensure access to the site, and the transmission lines that will carry electricity to consumers, should also be evaluated prior to approval of the Application. In addition, a discussion of the potential effects of storm events and associated storm surge on those same facilities should be evaluated both for current sea level and for the range of possible rise in sea level over the useful life of the proposed reactors. Council staff's attempts to elicit additional analysis of the potential impacts of sea level rise, including an assessment of potential inundation under extreme hurricane conditions, based on the planning parameters adopted by the Southeast Florida Regional Climate Change Compact (which includes Monroe, Miami-Dade, Broward and Palm Beach Counties), were unsuccessful during the sufficiency phase (see the US Army Corps of Engineers, July 2009 in Table 1 in "A Unified Sea Level Rise Projection for Southeast Florida").

Sea, Lake and Overland Surges from Hurricanes (SLOSH) modeling for the Biscayne Bay Basin in Miami-Dade County, conducted by the National Hurricane Center as part of the Statewide Regional Evacuation Study Program in 2010, used a more up-to-date version of the model than the one used by FPL in its Application. Surge analysis carried out by Council staff as part of the same study (see the Storm Tide Atlas at www.sfrpc.com/sresp.htm and attached Figure 1) showed that projected surge water depths for a worst-case storm would generally be higher than those predicted with the previous version of the SLOSH model. Attached Figure 2 shows the potential water depth at the Turkey Point site and surrounding area for a worst case storm based on the analysis conducted by Council staff, **without consideration of sea level rise.**

According to staff at the National Hurricane Center, "the most accurate method would be to couple a general circulation model such as SLOSH with a coastal morphology model, as SLR would likely result in radical changes to the coastline, which would then alter the surge vulnerability." An analysis conducted under that approach for one or more sea level rise scenarios would enable Council staff to rerun the surge analysis and assess the potential impact on Turkey Point and the surrounding area more accurately than has been possible to date.

Goal 3 Promote the health, safety, and welfare of South Florida's residents.

Policy 3.7 Reduce exposure to environmental contaminants and hazards in the Region's ground, air, and water.

Goal 4 Enhance the economic and environmental sustainability of the Region by ensuring the adequacy of its public facilities and services.

Policy 4.3 Utilize the existing infrastructure capacity of regional facilities to the maximum extent consistent with applicable level of service standards before encouraging the expansion of facilities or the development of new capacity.

Policy 4.10 Encourage the application of resource recovery, recycling, cogeneration, district cooling, water re-use systems, and other appropriate mechanisms where they are cost-effective and environmentally sound as a means of reducing the impacts of new development on existing public facilities and services and decreasing the costs of providing new public facilities and services.

Goal 9 Develop clean, sustainable, and energy-efficient power generation and transportation systems.

Policy 9.7 Assess the impacts of global climate change and sea-level rise on South Florida's resources and land uses.

Goal 19 Direct future development away from areas most vulnerable to storm surges.

Policy 19.5 Incorporate buffer and conservation zones into site designs for new development and redevelopment in the storm surge areas to mitigate possible damage. Consider the inevitable rise in sea level in all decisions regarding the design, location, and replacement of coastal development or redevelopment.

Policy 19.7 Require any development or redevelopment that occurs in a Coastal High Hazard Area to include features that mitigate hazard impacts and promote public safety and welfare.

FINAL CONDITIONS AND RECOMMENDATIONS

The Council has identified the priority issue areas and analyzed the impacts of the proposed project. The Council recommends that, if the application is approved, the Applicant:

1. Use training and hiring practices for the construction and operational phases of this project that ensure workers from the Region are utilized to the greatest extent possible in order to maximize the economic impacts captured locally and regionally.
2. Apply comprehensive mitigation strategies that work to obtain interagency consensus on addressing impacts and mitigation strategies. These strategies should determine the extent of sensitive wildlife and vegetative communities in the vicinity of the project, protect habitat and mitigate disturbances, and minimize impacts to the natural systems to the greatest extent feasible. In addition, the Applicant should ensure adequate protection of wildlife during the construction phase of the project through the inclusion of crossings, underpasses and fencing.
3. Implement a phased strategy for construction of the radial collector wells, testing and monitoring the impacts on ground and surface waters, prior to approval of full-scale implementation, in order to ensure this approach is scientifically sound and environmentally sustainable.
4. Revise the assessment of the site and the surrounding area using the best available data, as well as analysis based on the most current elevation data and Sea, Lake and Overland Surges from Hurricanes (SLOSH) modeling tools. This analysis should include a range of potential sea level rise that incorporates the planning parameters adopted by the Southeast Florida Regional Climate Change Compact (see the US Army Corps of Engineers, July 2009 entry in Table 1 in "A Unified Sea

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Level Rise Projection for Southeast Florida"). FPL also should agree to participate in an ongoing regional assessment of sea level rise calculations over the life of the project.

These recommendations will assist in reducing the cumulative impacts to infrastructure; implementing local comprehensive plans; and protecting people, animals, native plants and wetlands, consistent with the Goals and Policies of the *Strategic Regional Policy Plan for South Florida (SRPP)*.

If you require further information, please contact me or Karen Hamilton at 954-985-4416.

Sincerely,

A handwritten signature in blue ink, appearing to read "James F. Murley".

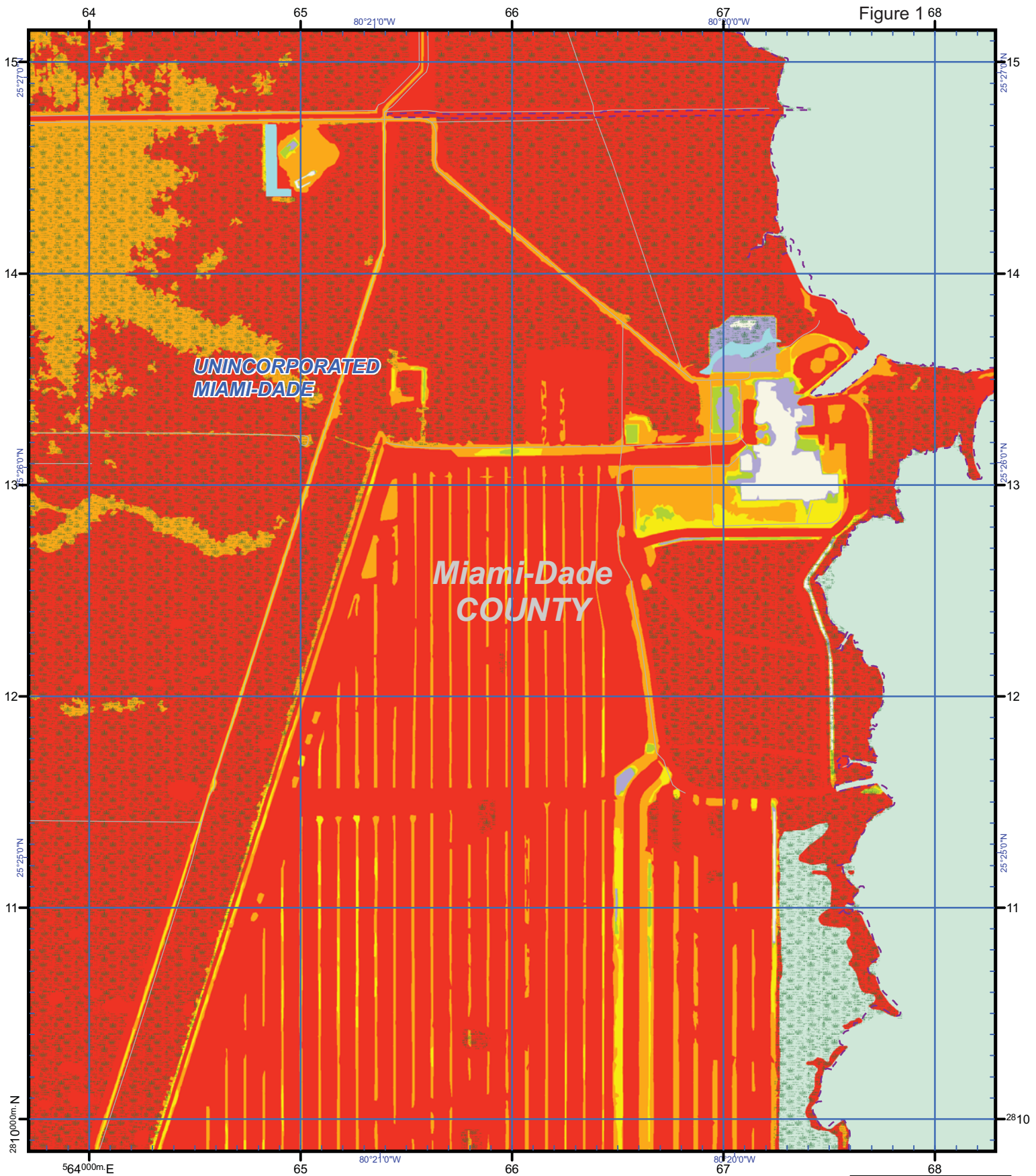
James F. Murley
Executive Director

JFM/KAL

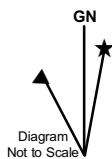
Attachments: Figure 1 – Storm Tide Zones Map

Figure 2 – Statewide Regional Evacuation Study Project Depth Analysis Study Map

cc: Sam Goren, Esquire, Goren, Cherof, Doody & Ezrol, P.A.
Michael Cirullo, Cherof, Doody, & Ezrol, P.A.,
Distribution List (via email)



US National Grid
100,000-m Square ID
NJ
Grid Zone Designation
17R
Datum = NAD 1983, 1,000-m USNG



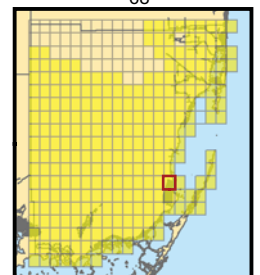
Notes:
1. Surge limits are based on still water storm tide height elevation above NAVD88 at high tide with no wave setup.
2. Total Storm Tide limits were derived from Maximum of Maximums surge heights over LIDAR based digital elevation.
3. The Points of Reference are locations determined to be relevant to emergency management officials.

ATLAS LEGEND

- HOSPITAL
- Points of Reference
- Evacuation Route
- City Limits
- NHD Lakes
- NHD Major Water

- Cat
- 1
 - 2
 - 3
 - 4
 - 5

Storm Tide Zones
Miami-Dade County, 2010
Scale - 1:24,000
0 2,000 Feet
USNG Page **17R NJ 64 10**
Map Plate **91**



This map is for reference & planning purposes only.
Hurricane evacuation decision-making and growth
management implementation are local responsibilities.
Please consult with local authorities.

Figure 2

