

**FWC STAFF REPORT FOR FLORIDA POWER AND LIGHT COMPANY –
CAPE CANAVERAL ENERGY CENTER (CCEC)**

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This report summarizes the fish and wildlife resources that could be affected by changes to the existing power plant. It includes general recommendations for addressing these issues during the development. If you have any questions regarding the information in this report, please do not hesitate to contact Jennifer Goff at phone (561) 625-5122, or email at Jennifer.Goff@myfwc.com, or Ron Mezich at phone (850) 922-4330 or email at Ron.Mezich@myfwc.com.

PROJECT DESCRIPTION

The existing Florida Power and Light (FPL) Cape Canaveral Plant consists of two nominal 400-megawatt unit conventional dual-fuel fired steam boilers that will be converted into a “modern, highly efficient, lower-emission next-generation energy center” (p. 1-1 of volume 1 of the application submittal). The project will use existing plant site boundaries, cooling water intake and discharge infrastructure, and transmission right-of-way. Construction parking and laydown will be staged on FPL-owned land adjacent to the existing Cape Canaveral Plant. The existing FPL Cape Canaveral Plant property is located on approximately 43 acres of flat, sandy area between Cocoa and Titusville in Brevard County, Florida. The site is bounded on the east by the Indian River Lagoon (Intercoastal Waterway) and on the west by U.S. Highway 1 in a portion of Section 19, Township 23, and Range 36. In addition, FPL maintains a sovereignty submerge lands lease from Florida Department of Environmental Protection (DEP) that is identified as tax Parcel Identification number 23-36-19-00-00750.0-0000.0.

The proposal utilizes the existing plant site boundaries, cooling water intake and discharge infrastructure, and transmission right-of-way. Construction parking and laydown would be staged on FPL-owned land adjacent to the existing Cape Canaveral Plant. While there would be no permanent changes in the actual footprint of the facility, this proposal requires the addition of an offsite construction laydown and parking area, and a minor upgrade to existing transmission lines/switchyard/substation to connect Cape Canaveral Energy Center (CCEC) to the FPL transmission system. Temporary changes to the thermal discharge would occur during the conversion, while the conversion would yield a permanent reduction in the CCEC’s thermal discharge. The interim discharges would be to the existing intake canal located approximately 500 feet south of the current warm-water discharge area. After the conversion, the CCEC’s expected thermal discharge would be approximately 25% less than at present.

POTENTIALLY AFFECTED RESOURCES

Terrestrial wildlife

This CCEC proposal does not require any permanent increase of the footprints of the associated facilities, but does propose to clear approximately 41 acres for offsite

construction laydown and parking area. The proposed location for these activities contains flat, sandy soils and large areas of upland scrub, pine, and hardwood hammock habitat. There are several species on the State's threatened list that occur in this area including the gopher tortoise, Florida scrub-jay, eastern indigo snake, and Florida beach mouse and these conditions help address our concerns in regards to those species.

West Indian manatee

The manatee is listed by both the State and the USFWS as Endangered, and its use of the area surrounding the CCEC is well documented by aerial survey, mortality, and satellite telemetry data. The project site is characterized as a primary warm-water manatee refuge site due to the presence of a warm-water effluent from power plant operations. Between January 1974 and December 2008, 36 manatees have died from watercraft-related causes within a five-mile radius of the project location. In addition to the watercraft-related deaths, there have also been eight human-other, 26 perinatal, 26 cold-stress, 45 natural (other), and 68 undetermined manatee deaths within the same radius.

Historically speaking, the majority of manatees on the east coast of Florida are believed to have been limited in their distribution during cold winters to the warmer sub-tropical waters south of the Sebastian River (Moore 1951). Because of their limited ability to conserve heat, manatees cannot survive exposure to water temperatures below approximately 68° F (20°C) for extended periods of time (Marine Mammal Commission 1988). In north and central Florida, water temperatures in winter periodically drop below 68° F. During these periods, manatees seek out warm-water sources. The power plants and other industries that discharge large volumes of warm water into Florida's coastal bays and estuaries provide manatees with warm-water refugia (Campbell and Irvine 1981, O'Shea et al. 1985). Since the introduction of these warm-water sources, more manatees have used Brevard County waters during the winter months.

With the presence of a warm-water refuge, ample forage, and protected areas in the north Banana River, Brevard County hosts a significant year-round manatee population. Spring and winter aggregations are the largest documented in the State. Spring aggregations in the north Banana River alone have exceeded 365 manatees (Jane Provancha, personal communication), while winter surveys at thermal discharges from the two power plants in Brevard County have documented a high count of 588 manatees during a single flight (Reynolds 2004).

The conversion of the CCEC would result in the temporary discontinuation of the existing thermal discharge and manatee warm-water refuge; however, the construction of an interim heating system would allow for continuation of a warm-water refuge for manatees near the CCEC. The temporary discontinuation of the existing thermal discharge and the relocation of the warm-water refuge to a nearby location will modify manatee warm-water habitat and require manatees to adapt to this change.

Due to the dependence of numerous manatees on the warm-water habitat provided by the CCEC, permit conditions addressing the interim heating system, the temporary warm-water refuge, and the return to the historic site after reconstruction are being

recommended. In addition, FWC is also recommending that FPL provide for monitoring of environmental and biological indicators that will play a substantial role in determining the status of the interim heating system during the conversion. These monitoring conditions will assist FWC's efforts to monitor the health status of manatees and provide an early warning system for cold stress complications and contingency planning to help mitigate the potential loss of significant numbers of manatees if there is a failure in the interim warm-water heating system.

Conclusion - Manatees

Florida manatees have used the Cape Canaveral plant's thermal discharge during the winter months for decades. The thermal discharge from this plant has been consistent and reliable, thereby allowing manatees to become dependent on it. At the time the Manatee Power Plant Protection Plan (MPPPP) was developed for this plant, the FWC, USFWS, and FPL agreed upon a 61°F ambient water trigger temperature based on a negotiation of several factors. This trigger temperature requires the plant to operate at least one unit to create a warm-water refuge for manatees during the winter months when ambient water temperatures reach the trigger temperature. The ambient water temperature that was selected was based on several criteria: 1) Base Load Operation, with the Cape Canaveral Plant operating as a base load unit (running consistently and creating a dependable warm-water refuge), 2) economics (potential costs to FPL) and 3) manatee biology (how often and how long would manatees be subjected to temperatures between 68°F and 61°F). Two of these three factors have recently changed and will change even further during the conversion process. The warm water discharge at the Cape Canaveral Plant has been less consistent, and the interim refuge may be even less dependable for manatees if operated at a 61° F trigger temperature. The reduced dependability of the warm-water refuge may increase the frequency of exposure of manatees to cold water and escalate the risk of cold stress disease and death since the proposed interim heating system has not been implemented previously.

The USFWS advised the licensee in August 2008 that take of manatees is not authorized during the proposed plant conversion at the CCEC (See Attachment A). As a result FWC has attempted to develop appropriate measures and conditions to prevent take of manatees during reconstruction of the plant, which includes the interim refuge. We have worked as closely as possible with the licensee to develop these conditions.

RECOMMENDATIONS

We recommend the following Conditions of Certification:

Terrestrial Wildlife

1. All undeveloped habitat onsite shall be surveyed for the presence of state- and federally listed species no more than six months before land clearing and the results shall be reported to the FWC. We recommend that the report includes methodology, results, discussion, and references to all survey protocols and documents used. If there is evidence that any state-listed species are present, then the licensee must report the findings to the FWC. If impacts to those species cannot be avoided, then the licensee must contact the FWC before taking any action that might result in an impact to those species.
2. Gopher tortoises found onsite shall be relocated in accordance with the state Gopher Tortoise Management Plan. Pursuant to the requirements of Rules 68A-25.002 and 68A-27.004, Florida Administrative Code, a permit for a gopher tortoise capture/relocation/release activity must be secured from the FWC before beginning any relocation work. Such permits will be issued pursuant to any and all applications which sufficiently accommodate these guidelines. Application forms to be used are available from the Permit Coordinator, Species Conservation Planning Section, Florida Fish and Wildlife Conservation Commission, 620 S. Meridian St., Mail Station 2A, Tallahassee, FL 32399-1600, (850)410-0656, ext. 17327/ (850)488-5297 fax or from the FWC's web site at <http://myfwc.com/permits/Protected-Wildlife/>. Complete applications should be submitted to the Gopher Tortoise Permit Coordinator at the above address at least 45 days before the time needed.
3. Before clearing, FPL shall coordinate with the USFWS and the FWC regarding appropriate measures to address impacts to scrub-jay habitat.

[Article IV, Sec. 9, Fla. Const.; Chapter 68A-27, F.A.C.]

West Indian Manatee

Interim Warm-Water Refuge Heating System

4. The current trigger temperature identified in the Manatee Protection Plan under the Cape Canaveral power plant's National Pollutant Discharge Elimination System permit is 61°F. In order to prevent an increased risk of manatee cold stress death during the CCEC conversion construction period, adaptive management protocols for the interim warm-water refuge heating system shall include the following:
 - a. Testing, monitoring, and evaluation of the interim heating system shall take place pursuant to the permit conditions found in the Environmental Monitoring and Biological sections.

- b. The trigger temperature shall be set at 65°F, during the period that the interim heating system is required. The interim heating system shall be designed such that when ambient water temperatures are below 65°F, as indicated from a selected ambient water temperature station (as agreed to in the environmental monitoring plan), the interim heating system will provide a water temperature at or above 68°F, within the identified warm-water refuge until such time as the ambient water temperature reaches 65°F. The interim heating system shall be maintained and operated to achieve this result, in accordance with best management practices (BMP) established by Licensee, unless otherwise authorized by FWC and USFWS, or unless the safety or reliability of the electric power system would be compromised. Licensee shall develop a BMP manual for the interim heating system that shall include the following components:
- i. operation and maintenance procedures for the interim heating system;
 - ii. requirement for a log demonstrating that the recommended operating and maintenance procedures and checks are performed;
 - iii. a spare parts list including the location of the spares;
 - iv. a list of qualified operators and repair persons and their contact information;
 - iv. a trouble shooting flowchart and repair personnel call out plan;
 - v. an incident log to track the status of troubleshooting and repair activities until the system is operable;
 - vi. notification requirements to agencies.

Licensee shall submit its BMP manual to FWC for review and comment by August 15, 2010. Licensee will review, consider, and incorporate if practicable, comments from FWC that are received by September 15, 2010. A copy of the Licensee's BMP manual for the interim heating system shall be maintained at all times at the CCEC site and shall be made available upon request to authorized representatives of FWC and DEP.

- c. If through the biological monitoring or daily visual assessments of manatee health, or scientific data it is indicated, that the 65°F interim heating system trigger temperature should be; raised or lowered to maintain a sufficient warm-water refuge, then DEP will meet with FWC, USFWS, and FPL to assess the information and develop a new strategy that can be agreed upon by all four parties. Such a new agreed upon strategy would be proposed in a DEP initiated modification to certification, in consultation with FWC, USFWS and FPL.
- d. The interim warm-water refuge is described as the area located within the current Cape Canaveral plant intake canal beginning at the western most extent of the canal and including all waters within the canal between the peninsula and the southern shoreline up to the southern shoreline's eastern most point (See attachment B and C).

[Sections 403.507 and 403.509, F.S.; Section 379.1025 F.S., Section 379.2291 F.S., Section 379.2431 (2) F.S., Section 20.331 F.S., Section 253.75 F.S., Rules 68A-27 Florida Administrative Code.]

The Licensee may request modification of the following applicable FWC conditions upon issuance by the Department of Environmental Protection, in consultation with the FWC, of Final NPDES permit modification FL0001473 if such requested modifications to the conditions herein have been adopted into the Final NPDES permit.

Environmental Monitoring

5. The following monitoring requirements are applicable to the interim warm-water refuge period and two years post commercial operation of CCE-C:
 - a. Within 180 days following certification of the CCEC, the Licensee (Florida Power & Light Company) shall submit to the FWC, Florida Department of Environmental Protection (DEP) Siting Office, and the USFWS an Environmental Monitoring Plan. The Environmental Monitoring Plan shall include, at a minimum, the following components:
 - i. An evaluation of the interim heating system to determine its ability to provide a sufficient manatee warm-water refuge (as described in conditions 4 and 5, and the Licensee's Thermal Modeling Study) during the winter months shall take place prior to discontinuation of the current warm-water discharge. Evaluation of the system shall include its performance during cold fronts and varying tidal and wind conditions, if present, for a duration to be established in the Environmental Monitoring Plan.
 - ii. If an interim heating system is installed at Riviera Beach Energy Center (RBEC) in 2009 an initial evaluation of the interim heating system, during winter conditions, shall be conducted there.
 - iii. The interim heating system at the CCEC site shall be installed and operational by September 15, 2010 or as soon as practicable after certification, whichever is later. However, the conversion from the existing system to the interim system cannot be implemented during the winter months (November through March). The warm-water refuge created by this system shall be monitored during initial testing at the CCEC site between September 15 and October 15, 2010, or the duration described in 5.a.i. and the empirical temperature data will be collected and compared to the thermal modeling results to evaluate the performance of the interim heating system and the accuracy of the thermal model.
 - iv. Monitoring of the CCEC's interim warm-water refuge during the conversion shall consist of winter (October 15 through March 31)

ambient air and water temperatures measured at multiple locations within the interim warm-water refuge. The number and configuration of temperature monitoring stations must be sufficient to provide a three-dimensional view, over time, of the thermal plume.

- v. Monitoring of the CCEC's post-conversion warm-water refuge shall consist of winter ambient air and water temperatures measured at multiple locations within the warm-water refuge. Monitoring for the first post conversion winter shall take place from October 15 through March 31 and from November 15 through March 31 during the second winter post construction. The number and configuration of temperature monitoring stations must be sufficient to provide a three-dimensional view, over time, of the thermal plume.
 - vi. Temperature monitoring stations will be deployed during the conversion phase in the interim refuge and post-conversion warm-water refuge. As part of this Environmental Monitoring Plan as described in this Section 5., the Licensee shall include a plan to convey the data from the temperature monitoring stations to the appropriate agencies on a daily basis when the trigger is on and the heaters are running and on a weekly basis when the ambient temperature is greater than 65 degrees.
 - vii. Specific locations for the temperature monitoring station(s), sampling frequencies, station depths data collection methods, and reporting frequencies must be identified and may be subject to further revision depending on receipt of any required permits, licenses and approvals.
 - viii. The Environmental Monitoring Plan, including the proposed monitoring locations, shall be approved prior to implementation. DEP, in consultation with the FWC and USFWS, shall indicate its approval or disapproval of the submitted plan within 90 days of the originally submitted information. In the event that additional information from the licensee is necessary to complete and approve the Plan, DEP, in consultation with the FWC and USFWS, shall make a written request to the licensee for additional information no later than 30 days after receipt of the submitted information. A final plan shall be in place by September 1, 2010.
- b. The Licensee will prepare an environmental monitoring report that includes all data (made available in electronic form) and statistical analyses collected as a result of the environmental monitoring requirements. This report will be submitted yearly, by August 1 of each year, while the interim warm-water system is in operation during the construction period and two years post-conversion of the CCEC. Within 180 days of the submittal of the final yearly environmental monitoring

report, a summary report of all environmental monitoring shall be completed and submitted to the FWC, and DEP Siting Office for review.

- c. If, in the review of the annual environmental monitoring reports, DEP, in consultation with the FWC and USFWS, determines the need to modify the Environmental Monitoring Plan, DEP will notify the Licensee to discuss the findings. At that time, DEP, in consultation with the FWC and USFWS and the Licensee, will determine what, if any, modifications need to be made to the Environmental Monitoring Plan and DEP will initiate modifications to certification if necessary.
- d. If by June 1, 2010, the initial monitoring tests of the interim warm-water heating system have taken place at the Riviera Beach power plant, the Licensee will contact DEP and FWC to provide and discuss the results. At that time, DEP, in consultation with the FWC and USFWS, and the Licensee, will determine what, if any, modifications need to be made to the operation of the interim heating systems and DEP will initiate a modification to certification if necessary.
- e. By November 1, 2010, or two weeks after completion of the initial monitoring test of the interim warm-water heating system at the CCEC, the Licensee will contact DEP, FWC and USFWS to provide and discuss the results. At that time, DEP, in consultation with the FWC, USFWS, and the Licensee, will determine what, if any, modifications need to be made to the operation of the interim heating system and DEP will initiate a modification to certification if necessary.
- f. If the Licensee determines the Environmental Monitoring Plan is in need of modifications during the operation of the interim heating system, the Licensee will contact the agencies to discuss the proposed modifications. At that time, DEP, in consultation with the FWC and USFWS and the Licensee, will determine what if any modifications need to be made to the Environmental Monitoring Plan and the DEP shall initiate a modification to certification if necessary.

[Sections 403.507 and 403.509, F.S.; Section 379.1025 F.S., Section 379.2291 F.S., Section 379.2431 (2) F.S., Section 20.331 F.S., Section 253.75 F.S., Rules 68A-27 Florida Administrative Code.]

Biological Monitoring

- 6. The following monitoring requirements for manatee distribution and abundance are applicable to the interim warm-water refuge and two year post-commercial operation of CCEC:

- a. Within 180 days following certification of the CCEC, the Licensee shall submit to the DEP Siting Office and FWC, a Biological Monitoring Plan. The Biological Monitoring Plan shall include at a minimum the following components:
 - i. Monitor the winter (October 15 through March 31) distribution and abundance of manatees during the time frame that includes the operation of the interim warm-water heating system. Monitor the winter (November 15 through March 31) distribution and abundance of manatees during the two years' post-conversion at the CCEC warm-water refuge.
 - ii. Biological monitoring shall at a minimum be conducted through aerial surveys and telemetry tagged manatees.
 - iii. Specific aerial survey paths, sampling frequencies, and methodologies for aerial surveys. At a minimum, aerial survey flight paths shall encompass known manatee winter habitat including travel corridors and passive warm-water sites throughout Brevard County on a weekly basis during the interim period during the winter months (October 15 through March 31). Once the converted CCEC is in operation the aerial surveys shall be conducted on a twice a month basis for two years post commercial operation during the winter months. After the first year of post conversion surveys FWC will discuss the results with the Licensee and determine if the second year's surveys can be reduced to one survey per month.
 - iv. Aerial surveys shall be designed so the data collected will provide an evaluation of manatee abundance and distributional changes in Brevard County in a statistically valid manner that is consistent with past aerial survey data.
 - v. Telemetry monitoring shall be accomplished by the Licensee through the use of FWC or another entity with experience in manatee telemetry tracking, and data analysis in Florida by providing them \$50,000 per winter season to be used for the purchase of up to three tags annually, if needed, and the accompanying annual activities and research, tracking and monitoring activities, data collection, ARGOS usage, software purchase and update, and one final report to the Licensee. This condition will coincide with the use of the interim heating system and 2 years post-commercial operation of CCEC. After the first year of post conversion telemetry monitoring FWC will discuss the results with the Licensee and the parties will determine if the second year's monitoring can be eliminated. The tags will be attached to manatees captured at, or near the CCEC site to document their movements to secondary warm-water sites, nighttime habitat use, behavioral response to changes in the operation of the interim refuge (e.g., availability of warm-water

discharge in relation to the trigger temperature), and thermal regime experienced by manatees during the conversion of CCEC. The details of the telemetry effort will be provided in the biological monitoring plan and, if requested by the licensee, FWC and USFWS can provide assistance.

- vi. The Biological Monitoring Plan shall be reviewed and approved prior to implementation. DEP, in consultation with the FWC and USFWS, shall indicate its approval or disapproval of the submitted plan within 90 days of the originally submitted information. In the event that additional information from the licensee is necessary to complete and approve the Plan, DEP, in consultation with the FWC and USFWS, shall make a written request to the Licensee for additional information no later than 30 days after receipt of the submitted information. A final plan shall be in place by September 1, 2010.
- b. The Licensee shall provide a manatee observer(s) who has sufficient experience in detecting indicators of cold stress in manatees. The monitoring protocols and individuals acting as manatee observer(s) will require approval from the FWC.
- c. The manatee observer will be required to conduct a daily visual assessment of the condition and general distribution of manatees using the interim warm-water refuge during the winter months (October 15 through March 31) during the interim period. The visual assessments shall be conducted for a sufficient length of time to assess most of the manatees present at the plant and accessible to the observer on that day. If an approved observer is not available, licensee shall notify FWC as soon as possible, but no later than 48 hours, to coordinate actions necessary to resume the observation program.
- d. The Licensee shall provide two moveable land-based observation platforms located along the interim warm-water refuge. These will be used by the manatee observer(s) for conducting assessments of cold stress symptoms and by FWC or USFWS staff monitoring manatee use of the interim refuge through photo identification.
- e. The Licensee will prepare a biological monitoring report that includes all data (made available in electronic form) and statistical analyses completed as a result of the requirements set forth in the biological monitoring plan. This report will be submitted yearly, by August 1 of each year, when the interim warm-water system is in operation during the construction period and two years post-commercial operation date. Within 180 days of submittal of the final yearly biological monitoring report a summary of all biological monitoring reports shall be completed and submitted to the FWC and DEP Siting Office for review.

- f. If, in the review of the biological monitoring reports, DEP, in consultation with FWC and USFWS, determines the need to modify the Biological Monitoring Plan, DEP will notify the Licensee to discuss the findings. At that time, DEP, in consultation with the FWC and USFWS, and the Licensee will determine what if any modifications need to be made to the Biological Monitoring Plan and the DEP will initiate a modification to certification if necessary.
- g. If the Licensee determines the Biological Monitoring Plan is in need of modifications during the operation of the interim heating system, the Licensee will contact the agencies to discuss the proposed modifications. At that time, DEP, in consultation with the FWC and USFWS, and the Licensee will determine what, if any modifications need to be made to the Biological Monitoring Plan and the DEP will initiate a modification to certification if necessary.
- h. The Licensee will provide personnel from the FWC, USFWS, USGS Sirenia Project, or a designee of these agencies, access to the CCEC property to conduct manatee monitoring activities. Reasonable notice shall be given to the Licensee by the agencies. Access would be limited to normal weekday business hours (8:00 a.m. - 5:00 p.m.) unless arrangements are made in advance with the Licensee.

[Sections 403.507 and 403.509, F.S.; Section 379.1025 F.S., Section 379.2291 F.S., Section 379.2431 (2) F.S., Section 20.331 F.S., Section 253.75 F.S., Rules 68A-27 Florida Administrative Code.]

Contingency Plan

- 7. FWC and USFWS' LOA (Letter of Authorization) network responders will be responsible for all efforts related to manatee rescues, rehabilitation activities, and carcass recovery during the CCEC conversion. In order to effectively implement contingency plans during the plant conversion and to address manatee health-related issues due to a malfunction or inability of the interim warm-water heating system to effectively provide a warm-water refuge during the winter months (October 15 through March 31), the following conditions are required:
 - a. If the observer (pursuant to conditions 6.b., c. and d.) identifies manatees with apparent signs of cold stress disease, digital photographs should be taken of the animal(s) and the FWC shall be called as soon as possible on the day of the observations through the following methods. An FWC biologist can be reached via pager at 800-714-0620 (enter the callers contact number followed by the code "02". A page will be returned within 30 minutes; if not, resend the page. For immediate emergency situations FWC's Wildlife Alert number can also be called at 888-404-FWCC.

- b. The Licensee will notify FWC and USFWS immediately if there is a mechanical failure of the interim heating system, or if, for any other reason the interim heating system is not operating in a manner that will provide warm-water sufficient to keep the warm-water refuge at a temperature of 68° F or greater.
- c. The Licensee shall provide in-kind services and financial assistance, not to exceed \$100,000 in total value, to FWC for manatee rescue or recovery in the event that there is a failure of the interim heating system resulting from Licensee's failure to comply with Condition 4.b. that causes death or identifiable cold stress to manatees in Brevard County. This condition would apply during the winter months (October 15 through March 31). The in-kind assistance and funds would only be used to address manatee-related cold stress issues in the area that the interim system affects.
- d. The Licensee will provide personnel from the FWC, USFWS, USGS-Sirenia Project, or a designee of these agencies, access to the CCEC property to conduct manatee monitoring activities. Reasonable notice shall be given to the licensee by the agencies. Access would be limited to normal weekday business hours (8:00 a.m. - 5:00 p.m.) unless arrangements are made in advance with the Licensee.
- e. The Licensee will include as part of its safety orientation manatee awareness training for full-time permanent construction personnel at the CCEC site. This training will be designed to educate the construction work force about the legal requirements to avoid manatees and to provide them with contact information if they should spot an injured manatee.
- f. All visitors to CCEC will be required to comply with FPL's safety and security requirements. Personnel will receive an orientation from FPL or its contractor prior to commencing observations or other activities.

[Sections 403.507 and 403.509, F.S.; Section 379.1025 F.S., Section 379.2291 F.S., Section 379.2431 (2) F.S., Section 20.331 F.S., Rules 68A-27 Florida Administrative Code.]

Development of a Long-Term Manatee Strategy

- 8. It is expected that at some point in the future the warm-water habitat created by the CCEC will diminish or be terminated in that event the FWC and USFWS believes it is in the best interest of the Licensee, FWC, USFWS, DEP, and the Florida manatee population to begin strategic long term planning to reduce the adverse affects to the Florida manatee population before this occurs.
 - a. Within two years of the formal approval by FWC and USFWS of a Warm-Water Action Plan (Plan), inclusive of a future-oriented Management Policy for Warm-Water Manatee Habitat, the Licensee shall host and chair

- a workshop designed to: (a) articulate a strategy for achieving the goals of that Plan, (b) develop a timetable for implementing the strategy, (c) review progress to date in achieving the strategy, and (d) identify impediments and solutions.
- b. Within one year of the workshop held pursuant to Condition 1, the Licensee shall provide the FWC and USFWS with a formal report of the workshop, including findings, conclusions, and recommendations.
- c. Over the course of the operating life span of the CCEC the Licensee shall develop an exit strategy for the CCEC that prevents significant losses to the manatee population when the Licensee determines reduce or eliminate the CCEC's thermal discharge to the extent that a dependable warm-water refuge is no longer present. The Licensee's strategy shall consider FWC and USFWS's statewide Warm-Water Action Plan approved by FWC and USFWS.
- d. The Licensee shall work closely with the FWC and USFWS to evaluate progress toward achieving the vision and goals of the Warm-Water Action Plan and to develop adaptive changes to the Plan as needed to promote manatee recovery through participation in periodic workshops and/or conferences designed to accomplish such evaluation and adaptive changes.

Manatee Construction Conditions For In-Water Work

- 9. The Standard Manatee Conditions for In-Water Work (revision 2009) are required for all in-water work in or adjacent to waters accessible to manatees. Blasting or pile hammering activities to break rock shall be prohibited in waters accessible to manatees. If no other alternative exists, a modification of these conservation measures can be requested. An adequate Blast and Protected Species Watch Plan must be submitted to and approved by the Imperiled Species Management Section of the FWC prior to these methodologies being used.
- 10. To reduce the possibility of injuring or killing a manatee during construction, in-water work shall not be performed between November 15 and March 31 unless essential to support the CCEC project's schedule. If in-water work during the winter cannot be avoided the Licensee will contact the agencies to determine alternative conditions that will be implemented to address the proposed activity.
- 11. At least one person shall be designated as a manatee observer when in-water work is being performed. That person shall have experience in manatee observation, be approved by the FWC two weeks before the beginning of construction, and be equipped with polarized sunglasses to aid in observation. The manatee observer must be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity. Movement of a work barge, other

associated vessels, or any in-water work shall not be performed after sunset, when the possibility of spotting manatees is negligible. Observers shall maintain a log detailing manatee sightings, work stoppages, and other protected species-related incidents. A report, summarizing all activities noted in the observer logs, the location and name of project, and the dates and times of work shall be submitted within 30 days following project completion, to the FWC's Imperiled Species Management Section at: 620 South Meridian Street, 6A, Tallahassee, Florida 32399-1600, or e-mailed at fcmpmail@myfwc.com.

To reduce the risk of entrapment and drowning of manatees, grating shall be installed over any existing or proposed pipes or culverts greater than 8 inches, but smaller than 8 feet in diameter that are submerged or partially submerged and reasonably accessible to manatees. Bars or grates no more than 8 inches apart shall be placed on the accessible end(s) during all phases of the construction process and as a final design element to restrict manatee access.

[Sections 403.507 and 403.509, F.S.; Section 379.1025 F.S., Section 379.2291 F.S., Section 379.2431 (2) F.S., Section 20.331 F.S., Rules 68A-27 Florida Administrative Code.]

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