TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION

APPLICANT

Walt Disney Parks and Resorts U.S., Inc.
Post Office Box 10000
Lake Buena Vista, Florida 32830

Walt Disney World Resort Complex
Facility ID No. 0950111

PROJECT

Permit No. 0950111-037-AC

Two Hurst Series 500 Steam Boilers

COUNTY

Orange and Osceola Counties, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road, MS #5505
Tallahassee, Florida 32399-2400

December 24, 2014

1. GENERAL PROJECT INFORMATION

1.1. Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

1.2. Facility Description and Location

The existing Walt Disney World Resort Complex is located in Orange and Osceola Counties at 1375 Buena Vista Drive, Lake Buena Vista, Florida. UTM Coordinates are: Zone 17, 443.43 km East and 3144.89 km North; Latitude: 28° 25' 45.2351" North and Longitude: 81° 34' 39.6831" West. The location of orange and Osceola Counties in Florida in given in **Figure *1*** while the location of Walt Disney World Resort Complex is given in **Figure *2***. A satellite view of the Walt Disney World Resort Complex area is given in **Figure 3** below.

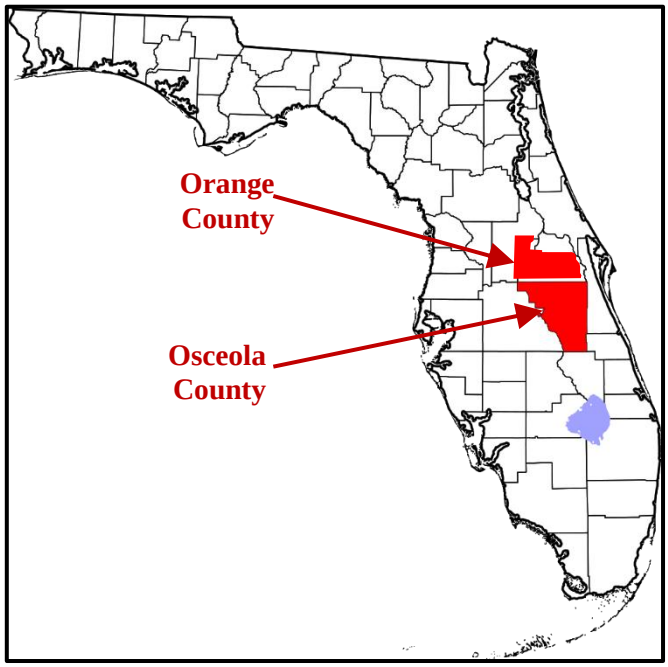

Figure 1. Orange and Osceola Counties.

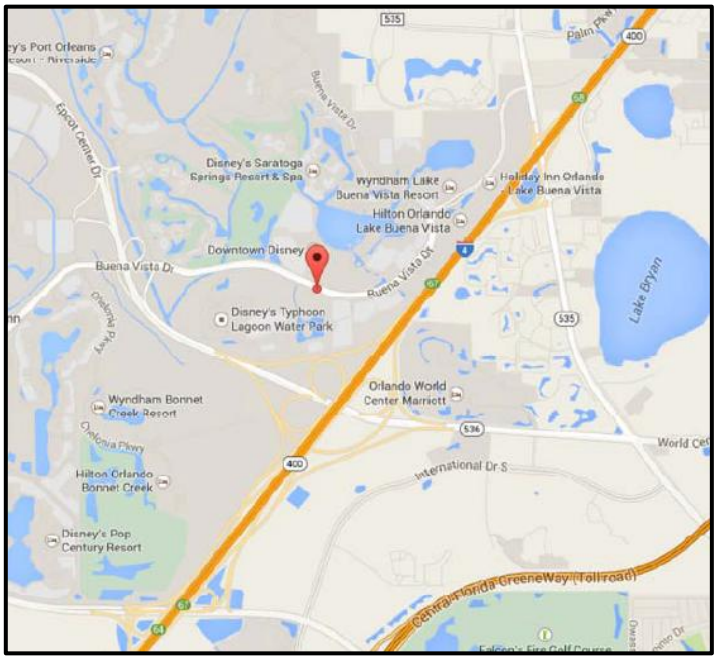

Figure 2. Walt Disney World Resort Complex.

This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to Ambient Air Quality Standards (AAQS).

The Walt Disney Parks and Resorts USA, Inc., in Lake Buena Vista is comprised of two different entities under its control: The Walt Disney World Theme Parks and Resorts and Ready Creek Energy Services. The facility is a complex of hotels, theme parks, support facilities, and a utility. The various air pollution sources are boilers, a combined cycle combustion turbine with a natural gas-fired heat recovery steam generator, emergency reciprocating

internal combustion engines, paint spray booths and associated operations, dry cleaning, animal crematory, general workshop operations, external combustion oil heaters and hot water heaters.

Figure 3. Satellite View of the Walt Disney World Resort Complex Area.

A list of the regulated emission units (EU) at the facility is given in **Table 1** below.

TABLE 1 – LIST OF EMISSION UNITS AT THE WALT DISNEY WORLD RESORT COMPLEX.

E.U. No.	Brief Description
Regulated Emission Units	
020	Laundry Boiler #1
022	Laundry Boiler #3
112	Crawford Model CB800 Animal Crematory
120	Four Diesel Electric Generators Serving the DISC Building
121	Dry Cleaning Machine
122	CI NESHAP Emergency Engines
123	SI NESHAP Emergency Engines
127	CI NSPS Emergency Engines
129	SI NSPS Emergency Engine
131	Two Hurst Series 500 Steam Boilers (new)
088	CCCT with natural gas fired Heat Recovery Steam Generator
124	CI NESHAP Emergency Engines
128	CI NSPS Emergency Engines
130	CI NESHAP Emergency Demand Response Generators

1.3. Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is major stationary source in accordance with Rule 62-212.400, F.A.C., for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility operates units subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) in 40 Code of Federal Regulations (CFR) 63.
- The facility operates units subject to the New Source Performance Standards (NSPS) of 40 CFR 60.

1.4. Project Description

On October 29, 2014, Walt Disney Parks and Resorts U.S., Inc., submitted an air construction permit application to install, tune, operate and maintain two identically sized (6.43 million British thermal units per hour (MMBtu/hour)) natural gas-fired boilers (Hurst Series 500) with a continuous oxygen trim system in the Fourth Laundry Building at the Walt Disney World Resort Complex. The proposed construction involves the installation and operation of the two steam boilers at a new laundry that is under construction. The boilers will be used to provide steam and heat to the laundry process. The two boilers are part of a single emissions unit with two emissions points. These new boilers have been assigned emission unit number 131 in the Department's Air Resource Management System (ARMS) database. The steam boilers are subject to all applicable requirements of 40 CFR 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

1.5. Application Processing Schedule

Application for an Air Construction Permit was received on October 29, 2014. The Application was deemed complete.

2. PSD APPLICABILITY

2.1. General PSD Applicability

The Department regulates major stationary sources in accordance with Florida's PSD program pursuant to Rule 62-212.400, F.A.C. PSD preconstruction review is required in areas that are currently in attainment with the state and federal ambient air quality standards (AAQS) or areas designated as "unclassifiable" for these regulated pollutants. Commonly addressed PSD pollutants in the power industry include: carbon monoxide (CO), NO_X, particulate matter (PM), PM with a mean diameter of 10 microns or less (PM_{10}), PM with a mean diameter of 2.5 microns or less ($PM_{2.5}$), sulfur dioxide (SO_2), volatile organic compounds (VOC), lead (Pb), fluorides (F), sulfuric acid mist (SAM), and mercury (Hg). According to state and federal rules, six greenhouse gases (GHG), are also subject to PSD review.

Additional PSD pollutants that are more common to certain other industries include: hydrogen sulfide (H_2S), TRS including H_2S, reduced sulfur compounds (RSC) including H_2S, municipal waste combustor (MWC) organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans (dioxin/furan), MWC metals measured as PM; MWC acid gases measured as SO_2 and HCl, and MSW landfill emissions as non-methane organic compounds (NMOC).

As defined in Rule 62-210.200(174), F.A.C., a stationary source is a "major stationary source" (major PSD source) if it emits or has the potential to emit (PTE):

- 250 tons per year (TPY) or more of any PSD pollutant; <u>or</u>
- 100 TPY or more of any PSD pollutant <u>and</u> the facility belongs to one of the 28 listed PSD major facility categories.
- For the special case of greenhouse gases (GHGs), the facility must first be shown to emit or have a PTE of 100,000 tons/year of GHGs as carbon dioxide equivalent (CO_2e) to (possibly) be subject to regulation.[1]

[1] In making this calculation, the values listed in 40 CFR 98, Subpart A, Table A-1 are used to weight emissions by their respective Global Warming Potential (GWP). For example, the current GWP factors for four of the GHGs are: $CO_2 = 1$; $CH_4 = 25$; $N_2O = 298$ and $SF_6 = 22{,}800$.

The list given in the citation includes the category of "fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input". This category applies to the Walt Disney World Resort Complex before and after the proposed project. The Walt Disney World Resort Complex is a major stationary source based on actual emissions of and potential to emit 100 TPY or more of several individual PSD pollutants.

If emissions of GHGs expressed as CO_2e emissions are greater than 100,000 tons/year, then the total (unweighted) GHGs mass emissions are compared with the 100 and 250 tons/year thresholds to determine whether the source is a major stationary source.[2]

For major stationary sources such as the Walt Disney World Resort Complex, PSD applicability for modification projects is based on thresholds known as the significant emission rates (SER) as defined in Rule 62-210.200(258), F.A.C. Any "net emissions increase" as defined in Rule 62-210.200(189), F.A.C., of a PSD pollutant from the project that equals or exceeds the respective SER is considered "significant". SER also means any emissions rate or any net emissions increase of a PSD pollutant associated with a major stationary source or major modification which would construct within 10 km of a Class I area and have an impact on such area equal to or greater than 1 gram per cubic meter, 24-hour average.

Although a facility may be "major" (i.e., emits or has the potential to emit 100 or 250 TPY as applicable) for only one PSD pollutant, a project must include BACT controls for any PSD pollutant that exceeds the corresponding SER given in **Table 2**.

TABLE 2 – LIST OF SER BY PSD-POLLUTANT. [1]

Pollutant	SER (tons/year)	Pollutant	SER (tons/year) [4]
CO	100	NO_X	40
$PM/PM_{10}/PM_{2.5}$	25/15/10	Ozone (VOC) [2]	40
$PM_{2.5}$ (NO_X)	40	$PM_{2.5}$ (SO_2)	40
Ozone (NO_X) [2]	40	SAM	7
SO_2	40	Pb	0.6
Hg	0.1	GHGs	> 75,000 (CO_2e) and > 0 (mass) [3]

1. Excluding fluoride and pollutants specific to the Pulp and Paper industry, MWCs, MSW landfills.
2. Ozone (O_3) is regulated by its precursors (VOC and NO_X). PSD for $PM_{2.5}$ can be triggered by its precursors (NO_X and SO_2).
3. Pursuant to 40 CFR 52.21(b)(23)(ii), pollutants with no SER listed at 40 CFR 52.21(b)(23)(i) have a SER of zero (0) tons/year.
4. SER also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 km of a Class I area and have an impact on such area equal to or greater than 1 $\mu g/m^3$, 24-hour average.

2.2. PSD Applicability for Project

The following table entries of estimated emissions increases due to the project were calculated by the applicant using emission factors from EPA's AP-42/FIRE SYSTEM:

Criteria Pollutants	Emission Factors, lb/MMBtu	Potential to Emit (PTE), tons per year (tpy)	2 Boilers' PTE, tpy	SER PTE Threshold, tpy
CO	0.082	2.32	4.64	100
CO_2	118	3311	6,622	75,000
NO_X	0.098	2.76	5.52	40
PM	0.00186	0.05	0.10	25
PM_{10}	0.00559	0.16	0.32	15
SO_2	0.001	0.02	0.04	40

[2] This procedure was held to be invalid at the federal level due to a U.S. Supreme Court opinion dated June 23, 2014. Link to Supreme Court Opinion The Department is reviewing the effects of the decision on its own rules. EPA issued guidance regarding implementation of the decision on July 24, 2014. Link to EPA Guidance

Criteria Pollutants	Emission Factors, lb/MMBtu	Potential to Emit (PTE), tons per year (tpy)	2 Boilers' PTE, tpy	SER PTE Threshold, tpy
VOC	0.005	0.15	0.30	40

As noted in the above table, the estimated potential to emit (PTE) for all relevant potentials are well below the corresponding significant emission rates (SER) PTE thresholds for the pollutants. Therefore, there will be only minor emissions increases expected and the project is not subject to PSD preconstruction review.

3. DEPARTMENT REVIEW

The Department has reviewed the applicant's analysis and conclusion and is in agreement that the project is not subject to a PSD review. The permit will only contain the applicable requirements of NESHAP Subpart DDDDD which includes for new boilers with a continuous oxygen trim system that maintains an optimum air to fuel ratio unit designed to burn gas 1 (natural gas) a requirement that the permittee conduct a tune-up of the boiler every 5 years as specified in §63.7540.

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in any significant increases in emissions.

Tom Cascio is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting him by telephone at 850/717-9077 or by e-mail at tom.cascio@dep.state.fl.us in the Department's Office of Permitting and Compliance at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.