STATE OF FLORIDA MANUFACTURED GAS PLANT AKA: COAL GASIFICATION PLANT ASSESSMENT AND REMEDIATION STATUS



Prepared By:

Florida Department of Environmental Protection
Division of Waste Management
Bureau of Waste Clean-up
CERCLA Site Screening Section

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Introduction



Raphael Ellender (1906-1972) "The Gas Works"

In September 1985, the FDEP Site Screening Superfund subsection (CERCLA Group) was tasked by then Bureau Chief Bill Buzick to identify and conduct Preliminary Assessments (PAs) at Florida's known and unknown manufactured gas plant (MGP) sites. A legacy of the "Gas Light" era, these plants have also been referred to as "coal gas" or "coal gasification plants". This request was spurred by the discovery of coal tar contamination at the People's Gas facility in North Miami Beach. Through a heating process, MPGs used coal (or coke); steam and a gasification agent (naphtha, Bunker C fuel oil, diesel fuel No. 6) to produce a combustible gas (hydrogen & carbon monoxide) for City street gas lights, home lighting and stoves. These plants were often municipally owned. However, they were often franchised out to private utilities. These plants operated in Florida from the late 1880's to the late 1950's. Most MGP operations ceased in Florida by 1959 with the completion of the natural gas transmission lines. Waste products from MGP operations included tars, aqueous ammoniacal liquors, cyanide "Prussian Blue" and heavy metals. Coal tar contains a number of volatile organic compounds, benzene, ethyl benzene, toluene & xylene (BTEX) and polycyclic aromatic hydrocarbons (PAHs) [i.e. benzo [a] pyrene]. Housekeeping practices at the MGPs were very sloppy. Tar and other waste products were often discharged directly to the ground and/or into nearby streams. Many of the storage tanks (tar water separators, pits, and Gasometers) were prone to leaking. As a result, soil and groundwater contamination was fairly common at the MGPs.

Through the use of the EPA's Radian Corp. 1984 Report on Survey of Tar Disposal, Locations of Town Gas Producers, Brown's Directories of American Gas Companies (1887-1944), Sanborn Fire Insurance Maps, library research and just plain detective work, the FDER/FDEP CERCLA Group initially identified 24 locations of Florida MGPs. The list ultimately grew to 29 MGP and MGP Dump sites. However, two of the suspected MGP sites turned out to be a transfer station (Deland Gas Systems) and the other produced only Hasche gas (Deland Hasche Gas Plant) with no detected MGP impacts. Five of the MGP sites are currently under EPA Region 4 lead as Superfund Alternative Sites (i.e. West Florida Natural Gas, Cascade Park Gasification Plant, Orlando Gasification Plant, Sanford Gasification Plant & St. Augustine Gas Plant). The first list of Florida MGP locations and status was generated in January 1990. This list included the location, owner and status of assessment and remediation. This list was subsequently updated in October 1990, September 2003, February 2004 and May 2009. Since the last update an MGP Dump (Aventura Gasworks Dump) and an old MGP (Key West Gas & Electric) were discovered and investigated. Information from this list was derived from FDEP's District offices, EPA Region 4 and the EPA Superfund Information Systems and Superfund NPL/ Superfund Alternative site websites. The Site Identification numbers (i.e. Comet #s, Folio #s, etc) are included in the Tables for each site. The reader is encouraged to review the site files on FDEP's Oculus database or County websites (Broward, Miami- Dade) the for more detailed information about the MGPs

http://www.epa.gov/region4/superfund/sites/sites.html http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm

References

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Gas Research Institute. October 1987. Management of Manufactured Gas Plant Sites Volume 1: Wastes and Chemicals of Interest. GRI-87/0260.1

Hatheway, Allen. 2002. "Geoenvironmental protocol for site and waste characterization of former manufactured gas plants; worldwide remediation challenge in semi-volatile organic wastes". Elsevier Science B.V Engineering Geology 64 (2002) pp 317-338. www.elsevier.com/locate/enggeo

Buzick, B. to District Mangers. September 6, 1985. FDER interoffice memorandum Re: Former Gas Manufacturing Facilities.

Dr. A.W. Hatheway's Former Manufactured Gas Plant web site. http://www.hatheway.net/

Brown's Directories of American Gas Companies Gas Statistics, Florida. 1887 to 1944, 1950 & 1960. (various publishers).

Sanborn® Fire Insurance Maps 1867 to 1970. Major Florida Cities

EPA Region 4 Superfund Sites website. http://www.epa.gov/region4/superfund/sites/sites.html

Jim McCarthy, PG II FDEP CERCLA Site Screening Section Bureau of Waste Cleanup Division of Waste Management March 22, 2013

Plant Address	District	Site ID # Or Folio #	Gas Type	CERCLA Assessment	Comments Re: EPA, County and/or State Enforcement
Gainesville Gas Plant Aka: Poole Roofing Co. 710 S.E. 2 nd St. Gainesville, FL 32601	NE	COM_69589 BF010001000 BF010001001 BF010001002 8518101	C,W,CW	PA-12/1987 PAR-9/1989 SSI-4/1990 ESI-12/1999 Recommendation: FA	EPA OCA: State Lead Cleanup. 1992-Consent Order Conditional approval of contamination assessment. Portion of site is Sprout Pilot Brownfield project. 2001-2002 BSRAs signed. 3/2008 RAP Source Removal Plan for Phase 1 (Poole Roofing & CSXT Parcel) submitted. 12/2008 Phase 1 RAP Addendum approved, Phase I source removal completed 7/2010. 2/2009 Phase 2 (CSXT property) RAP submitted. 2009-2010 Phase 2, dewatering, water treatment and soil removal. More than 255,000 tons of contaminated soil removed. As part of the petroleum program, 121,220 tonnage of soil were removed in late 2009 and early 2010.
Main Street MGP/Parkview Inn Aka: EHT/Confederate Park 901 North Main St. Jacksonville, FL 32204	NE	COM_152721 COM_185118 9801051	Unk	PA-4/2000 SI- 3/2002 Recommendation: FA	Coal tar residuals found under old hotel and adjacent Confederate Park. EPA OCA. Currently, State lead cleanup. However, State requested EPA action. COJ and FDEP NE Dist. Neg. CO. for Confederate Park. Abandoned Hotel now on plant property. Was possible Brownfield site. Coal tar contamination found in former footprint of Hogan Creek on City owned Confederate Park in 2001 & 2008. Little cooperation with PRPs. State requested EPA evaluate for taking as an EPA site.9/2009 FDEP notifies PRP (Park Group Inv.) of further EPA action. COJ submits CAR Addendum for Confederate Park to FDEP. COJ completed 2 nd phase of contamination assessment on Confederate Park. 4/2010 EPA request FDEP position on NPL listing. 5/2011 COJ submits SAR for Confederate Park. 5/2012 FDEP concludes assessment phase completed on Confederate Park and asks for RAP. 7/2012 COJ requests extension for RAP on Confederate Park. Still in assessment phase for motel portion. No remediation activities to date. State requests a hold regarding NPL listing.
Palatka Gas Authority Aka: FLA Power & Light 518 Main St. Palatka, FL 32177	NE	COM_68359	C,W	PA-2/1988 SI-3/1991 Recommendation: NFRAP	Completed initial Contamination Assessment phase. Remediation remedy-Natural attenuation and GW monitoring. However, Further assessment needed. Completed Contamination Assessment. Large scale SL removal and gw conducted in 2004. 11/2008 RAP submitted. 3/2009 RAP approved. 5/2009 Remediation started incl. NAM GW monitoring. Remediation consists of bioremediation, sulfate injection and GW treated with GAC filter. GW monitoring and remediation continue.
Peoples Gas System/TECO Aka: Jefferson Smurfit Corp of America Aka: Former Manufactured Gas Plant 1445 West Church St. & 1580 West Beaver St. Jacksonville, FL 32204	NE	COM_127942 COM_15605	C,W,CW	PA-10/1985 SSI- 6/1986. Reassessment-7/2001 Recommendation: FA	EPA OCA, State lead is FDEP-Northeast district. Two PRP funded IRAs (soil removal) conducted. Further assessment req. Additional Assessment shows offsite gw impacts. PRP has filed for bankruptcy, suspended work on site. 6/2009 FDEP requests additional assessment from TECO. 6/2011 SAR Addendum TM submitted. 11/2011 FDEP agrees additional GW assessment needed and to defer RAP. 4/2012 Proposed off-site GW sampling map sent to FDEP. 9/2012 Off-site site access granted.
Pintsch Compressing Gas Co. Gas Works Aka: West Bay Creosote Intersection of West of Bay Street and Myrtle Ave. Jacksonville, FL 32202	NE	COM_69669 271-1	Unk	PA-11/2001 SI- 12/2008 Recommendation: FA	Former rail yard MGP. Part of FDEP SIS West Bay Creosote study. Initially an EPA Lead. Soil and some GW contamination detected during 2008 SI. Due to lack of receptors and urban setting, EPA issued an NFRAP. Site referred to NE District. No Files on FDEP Oculus database.

Plant Address	District	Site ID # Or Folio #	Gas Type	CERCLA Assessment	Comments Re: EPA, County and/or State Enforcement
Riverfront Park MGP Site Aka: Palatka Gas Light & Fuel Co. River and South 3 rd Sts. Palatka, FL 32177	NE	COM_140647	C,W	PA-1/1988 SI- 10/1989 Recommendation: NFRAP	Site Archived by EPA 8/90. State Lead. Assessment and remediation (soil excavation) complete. enforcement closed.
St. Augustine Gasification Aka: St. Augustine Gas Co. Aka:St, Augustine Gas Service 98 Riberia St. St. Augustine, FL 32084	NE	COM_69756	W,CW	PA-3/1988 SI-1/1992. ESI- 4/1997. Recommendation: FA	MGP impacts to Tolomato River and adjacent wetlands . EPA lead. Superfund Alternative site. AOC signed between COSA, Atlanta Gas and EPA for EE/CA in 9/98. Final EE/CA report 4/00. Excavation of contaminated soil & sediments approved by EPA 9/00. AOC signed between COSA, Atlanta Gas and EPA for Remedial action in 3/01. Contamination. Assessment complete. Removed approx. 70,000 yd³ of contaminated SL by 1/02. NAM for VOCs started for GW in 2003. Work plan for Marina developed sent to EPA and NOAA. Work plan deals with handling of contaminated Sed. Work plan and HASP approved 11/06. Dredging Marina excavation in 2007. 99% of source contamination removed. Remedy construction complete. GW monitoring on-going. Supposed to have marina, hotel and condominiums when complete. However, site development on hold due to lack of funding. Robenson Joseph (404-562-8891)is the EPA RPM joseph.robenson@epa.gov
Daytona Beach Gasification Plant Aka: Daytona Beach Service Center Aka: Daytona MGP 132 N Seagrave Ave. Daytona Beach, FL 32014	С	COM_91018	W,CW	PA-9/1990 SI- 10/1991 Recommendation: NFRAP	Site Archived by EPA in 1993. Site lead by FDEP Central District. Site Assessment complete. Has performed an IRA soil/source removal, are continuing FP removal. FP recovery wells installed. FP removal and long term GW monitoring ongoing
Deland Gas System SW corner of S. Florida & Beresford Ave int. Deland, FL 32720	С	COM_315091	N/A	PA-6/1991 LSI- 9/1999 Recommendation: NFRAP	Tank transfer station. No MGP operations. Gas piped from Sanford Plant. No further federal or State action.
Deland Hasche Gas Plant 401 North Stone Street Deland, FL 32720	C	COM_313314	N/A	PA-7/1997 SI- 4/1998 Recommendation: NFRAP	Site Archived by EPA . Hasche gas process. No MGP contaminants detected. No further federal or State action
Orlando Gasification Plant 600 West Robinson St. Orlando, FL 32801	C	COM_241803	C,W,CW	PA-7/1989 SI- 2/1991 ESI- 5/1996 Recommendation: FA	EPA Lead. Superfund Alt.Site. Non-NPL PRP search completed 6/01. AOC signed in 2002. RI/FS neg. started 6/03. Phase 1 RI soil and GW sampling complete 9/04. Ph.II RI Work plan submitted to EPA 11/05. Ph.II RI Addendum WP submitted 5/06 to delineate coal tar contamination in Floridan aquifer. Drainage wells may have provided open conduit to Floridan aquifer. Phase II RI fieldwork completed 1/08. 8/2010 soil gas and groundwater monitoring plan approved. 2011-2012 determination of OU1 cut lines was negotiated. 1/13 Draft Feasibility Report for OU1 (Site soils & upper-level aquifer) has been submitted and under EPA review; FDEP has no comments. PRPs continuing remedial investigation of OU-2 (deepwater aquifer). Robenson Joseph (404-562-8891) is EPA Project Manager Joseph.Robenson@epamail.epa.gov

Plant Address	District	Site ID # Or Folio #	Gas Type	CERCLA Assessment	Comments Re: EPA, County and/or State Enforcement	
Peoples Gas/West Florida Natural Gas 613 NE Osceola Ave. (Behind 206 N.E. 9 th Street) Ocala, FL 34470	С	COM_134179	W,CW	PA-12/1987 PAR-6/1989 Desk-top SI- 1/1991 ESI 1/2000 Recommendation: FA	Superfund Alternative site. EPA lead. People's Gas and FDER enter CO in 1988. PRP funded. IRA soil removal (10,000 tons MGP impacted soils) in 1990. FDEP asks EPA to take enforcement lead in 6/99. AOC for RI/FS signed between PRP and EPA in 6/01. HRS documentation package complete 3/02. RI fieldwork conducted in 2005. RI report approved by EPA in 2/08. Site Assessment complete. Concrete cap installed. 7/2009 Draft FS submitted to EPA. Treatability studies on-going. ROD should be completed in FY 2014. Robenson Joseph (404-562-8891) is EPA Project Manager Joseph.Robenson@epamail.epa.gov	
Sanford Gasification Plant Aka: Florida Public Utilities 830 West 6 th Street (both sides of Street) Sanford, FL 32771	С	COM_160171	W,CW	PA-4/1990 SI- 1/1992 ESI-6/1997 Recommendation: FA	sent to FPUC, Florida Power Corp., FP & L, Atlanta Gas Light Co. & City of Sanford (Sanford Group). HRS package completed 8/97. AOC for RI/FS signed 4/98. FS for OU 1 (soils) & OU 2 (GW) completed 1/00 & 2/00. EPA ROD for OU OU 2 completed 7/00 & 6/01. OU 1 soil (excavate w/ thermal treat). OU 2 GW (NAM-10 years). DSAP fieldwork completed 1/00 & 2/00.	
Cascade Park Gasification Aka: Tallahassee MGP SW corner of Gadsden and Bloxham Streets Tallahassee, FL 32301	NW	COM_67392 BF370001000	C,W	PA-12/1987 SI-10/1988 ESI-6/1997 Recommendation: FA	EPA lead. Superfund Alternative site. Includes adjacent landfill. AOC for EE/CA between COT & EPA signed 11/98. EE/CA completed 2/02. Human Health RA complete. 2/02. Ecological RA completed 2/02. AOC for Removal Action between COT & EPA signed 9/04. Removal Action Work plan 2005. Soil Removal activities completed in 2006. Approximately 347.59 tons of sediment removed from Cascade Creek and 84,551.69 tons of soil removed from shallow and deep excavations. GW NAM ongoing. PRP continues to fund site cleanup, monitoring and oversight activities. As part of Blueprint 2000 project, site to be made into a large public park w/ trails, amphitheater, a baseball field and retention pond. COT performing initial RI/FS activities. COT currently performing a treatability study & will be sending a report of findings to EPA in mid-June 2013. If COT maintains current schedule, a FS study will be completed by November 8, 2013. EPA hopes to issue a ROD for the site by September 30, 2014. Rachel McCullough (404-562-8549)is now the EPA RPM mccullough.rachel@epa.gov	
Pensacola Manufactured Gas Plant Cervantes Street & Tarragona Pensacola, FL 32501	NW	COM_69033	W	PA-6/1990 Desk-top SI-3/1993 ESI- 12/1999. Recommendation: FA	EPA OCA, State lead cleanup through FDEP Northwest district. Assessment complete. No SL removal. Monitoring only and natural attenuation ongoing. May request conditional closure. Site is going through the conditional closure process with FDOT and the responsible parties at this time. Conditional closure is expected to be completed by the end of 2013.	
Bradenton Manufactured Gas Plant 705 3 rd St. W Bradenton, FL 34205	SW	COM_65180 349-1	W,CW	PA-3/1990 SI- 8/1993 IA- 3/1995 Recommendation: NFRAP	Site Archived by EPA 3/95. State lead through FDEP SW District. Continuing with contamination assessment, need additional. Horizontal delineation for GW and SL contamination. Off-site GW sampled and plan is for additional work off-site. As of January 2013, site assessment appears complete. On 1-18-13 SAR approved. Move to RAP stage.	

Plant Address	District	Site ID # Or Folio #	Gas Type	CERCLA Assessment	Comments Re: EPA, County and/or State Enforcement	
Central Florida Gas Co. Gasification Plant 1705 7 th St. Winter Haven, FL 33880	sw	COM_65250	CW	PA-12/1989 Desk-top SI- 9/1991 Recommendation: FA	MGP impacts in Lake Shipp located immediately west of site. Site Reassessment ongoing by EPA. ESI start needed. However, EPA assigned OCA. State action under FDEP SW Dist. 2/90 State and PRP enter into Consent Order. Remedial action underway for the on-site SL and GW contamination. Delay related to finalizing the assessment of impact to biota in Lake Shipp, and risk assessment is ongoing. An offsite portion of the property scheduled for remediation was held up due to site access issues. Using bio-sparging and periodic soil-vapor extraction for remediation since 2002. 1/2013 FDEP notes RAP not working and requests a RAP modification. Some areas of MGP have seen significant cleanup, while some northern and southern areas are still contaminated. Southwestern part of site has offsite contamination plume to be further delineated. MGP Site In compliance.	
Clearwater Coal Gasification Plant 400 Myrtle Street Clearwater, FL 33756	sw	COM_65207	W,CW	PA-9/1989 SI 7/1990 Recommendation: NFRAP	Site Archived by EPA 7/90. State lead through FDEP SW District. Delineation of vertical and horizontal extent of GW contamination has not been completed. Delineation of soil contamin. Not completed. Add. Assessment (incl. vertical delineation) required before a RAP can be proposed. Executed Consent Order OGC #93-0230. 4/03-Site referred back to FDEP Federal Programs Section for possible CERCLA reevaluation. 8/03 HRS reevaluation conducted using new information. Based on reevaluation, site recommended for further CERCLA evaluation. Jan 2008 – FDEP offered agreement to forego additional on-site vertical GW delineation if PRP continues to monitor perimeter Floridan wells (CAR will be approved); PRP agreed with this and can now proceed to RAP stage. FDEP approved a 4-task Pilot Study WP to allow University of Waterloo to conduct pilot test remediation using in situ chemical oxidation using sodium persulfate. In compliance.	
Lakeland Gas Plant Aka: Peoples/TECO Gas System 445 Kathleen Rd. Lakeland, FL 33815	sw	COM_65245	W	PA-3/1990 SI- 11/1992 ESI- 10/1998 Recommendation: FA	EPA OCA, State Lead. Source Removal by FP & L in 1997-98. Tar under Kathleen Road. Site Reassessment ongoing by EP Little progress finalizing the assessment portion of this site. Request made to collect a GW from an offsite area, but this has not occurred. FDOT does not have current plans to remove the portion of Kathleen Road where the tar is still present, but FDEP doesn't have any way to gain assurance that it won't be removed in the future. Still working with FDOT on that aspes SWD files indicate last correspondence from FPL was request for meeting to discuss scope of additional GW & SL sampling Pump & Treat GW remediation system in place. In 2006 DOT discussed their bypass construction on part of site. SWD not actively managing site. Last communication regarding site was emails with Jim McCarthy in Tallahassee in January 2010. FDEP will revisit site enforcement history.	
Peoples Gas Site/ Florida Suncoast Dome 1800 9 th Ave. N St. Petersburg, FL 33713	sw	COM_220490 BF529901000 BF529901001	W,CW	PA-11/1988 SI- 2/1990 Recommendation: FA	Source removal. EPA assigned OCA. State lead through FDEP SW Dist In monitoring only stages for GW and SW contamination. Need to execute deed restriction for contaminated soils left in place. Additional SL removal completed in 2010 & GW NAM continuing. Additional SL sampling being conducted – site current as of 1/2013.	
Peoples Gas System Aka: Tampa Former MGP 1200 North 13 th Street Tampa, FL 33605	sw	COM_65122	W,CW	PA-8/1987 SI- 10/1991 Recommendation: NFRAP	EPA archived site in 1996. State Lead. Site handled by FDEP SW district. Still completing contamination assessment. May 2003 source removal completed to 6' bls involving removal of tar from around buildings on-site. 11/2009-TECO identifies data gaps. Additional SL and GW assessment conducted 2009-2012. Still pursuing completing delineation of contamination of SL vertically and laterally off-site; GW delineation appears complete both vertically and horizontally.	

Plant Address	District	Site ID # Or Folio #	Gas Type	CERCLA Assessment	Comments Re: EPA, County and/or State Enforcement	
Aventura Gasworks Dump Aka: Binnings Pan American Intersection of NE 28 th Ct and NE 185 th St. (SE of this intersection)	SE	COM_299239 2822030000250	Unk possibly W, CW	PSA-11/2009 APA-12/2009 SI-10/2010 Recommendation: FA	Dump area used by nearby MGP for disposal of MGP wastes (i.e. tars, purifier wastes, etc). PRP completed source removal of former Binnings Pan American facility (Merco Group/Aventura Landings) portion of site in 2002. During PSA and APA process FDEP determines additional areas of MGP dump still exist. During SI, FDEP finds soil and GW contamination by VOCs and SVOCs on Biscayne Institute/Academy & Admiral Point Condominiums part of site. Possible MGP impacts to northwestern edge of Little lake Maule. MDERM/PERA assumes responsibility of Biscayne Institute/Academy (GSOMR, LLC) part of site requiring additional soil sampling and institutional controls. 4/2010 DERM conducts SL sampling of Biscayne Institute/Academy. 9/2012 GSOMR submits Partial Engineering Control Implementation Report to PERA. Plan documents completion of clean fill engineering control. 11/2012. PERA notifies GSOMR of fencing restriction requirements and/or an engineering control.	
Ft. Lauderdale Gasification Aka: Peoples Gas System Cox Plant 398 NW 7 th Ave. Ft. Lauderdale, FL 33311	SE	COM_54031	W	PA-3/1990 No SI completed Recommendation: NFRAP	Site Archived by EPA 3/90. Lead through Broward County Environmental Program. Some soil removal. Quarterly Monitoring. After Fourth Quarter results, Site given no further action by Broward County in 3/94.	
Peoples Gas System Inc. (North Miami Beach) 15779 West Dixie Hwy N. Miami Beach, FL 33162	SE	COM_57754 0722160000380	W,CW	PA-8/1986 SI3/1990 Recommendation: NFRAP	Site Archived by EPA 1/96. CO between FDER, DERM and PRP. Update by PAW 4/29/09, Extensive SL removal over the years. Additional site assessment activities by PRP, including SL borings and deeper GW monitoring and GW elevation from all wells. Meeting held with PRP / DERM / FDEP 12/2008. Additional delineation needed & options to deal with contamination beneath major railroad corridor. Status Report due 6/2009. 2009-Remedial Strategy is next step. PERA is correviewing project activities with the DEP/SED. Note that Dixie Highway, US 1, was widened. 1/2013 Delineation of SL & GW plumes mostly completed to propose and approve a Remedial strategy for the Western Parcel. A BSRA is being pursued for the Western Parcel. Removal of contaminated SLs in the Western Parcel has been proposed with hydra-seeding. Trees have been removed prior to initiating the Source Removal activities. Updated by GS on 01/10/2013.	
Peoples Gas/Miami Rinker Aka: CEMEX-Downtown Miami- Ready Mix 1600 North Miami Avenue Miami, FL 33136	SE	COM_71973 8505868 0131250481140	O,W	PA-3/1990 Recommendation: NFRAP	Site lead by PERA. Enforcement was pending by PERA. However, petroleum waste detected & referred to State Petroleum Cleanup program. Currently in State Petroleum tanks program. SARA for MGP portion of site submitted to DERM in 10/2008. SARA review comments 3/2009. SARA 2 due 5/2009. RAP due 5/2009. Likely co-mingled petroleum and coal tar GW plume. 6/2009 CEMEX moves off-site. 7/2009 Pilot Study Work Plan submitted Re: FP NAPL removal. 2/2012 PERA request Interim Source Removal. 6/2012 supplemental surface SL results submitted. 9/2012 PERA notifies PRP that GW plume not fully delineated. 12/2012 Remedial GW report issued. 3/2013 PERA request additional information Re: report Tom Kux is PERA Project Manager305/372-6250	
WPB Manufactured Gas Plant Aka: Florida Public Utilities Inc. 209 2 nd St. West Palm Beach, FL 33401	SE	COM_48354 630-1	W	PA-9/1989 Desk-top SI- 7/1991 Recommendation: FA	EPA OCA, Private Party Lead Cleanup. Consent Order State action under FDEP Southeast District. Update by PAW 4/29/2009, Additional on-going site assessment activities by PRP, including SL and GW assessment, FS submitted in 11/2006, comments sent, revised FS prepared, in review and options being considered as of 4/2009. Following the submittal of a FS, FPU was merged with Chesapeake Utilities Corporation. Thereafter, the approach to cleanup took a more aggressive path by proposing a pilot project for the Eastern parcel, while monitoring the GW. An IRAP has been approved for the eastern parcel on 4/8/12. Based on the results of this Pilot project, a RAP would be submitted for the rest of the site. The SVE and sparging into the shallow points started in 1/2013. GW Monitoring continues.	

Plant Address	District	Site ID # Or Folio #	Gas Type	CERCLA Assessment	Comments Re: EPA, County and/or State Enforcement
Ft. Myers Coal Gasification Plant 2600 Anderson Avenue Ft. Myers, FL 33916	s	COM_74062 BF369901000 BF369901001	W	PA-11/1989 SI- 9/1992 Reassessment 10/2002 Recommendation: NFRAP	Consent Order between City and FDEP. Site lead FDEP South District. Source removal and GW treatment and monitoring conducted early 2000's. Gas Holder/Gasometer removed mid-1990s. Soil excavation removed 10,000 tons of MGP impacted soils. June 2002, dual-phase vacuum enhanced treatment system commenced operation. 300,000 gallons of water treated thus far. Site designated as a Brownfield and remediating under a BSRA. Portion of site redeveloped with children's museum (Imaginarium). Groundwater remediation successfully completed in 2004. NFA with Institutional Controls proposed in 2005; Impervious soil cap constructed. 1/2013 City of Ft Myers recorded an approved restrictive covenant. NFA with institutional controls and SRCO with conditions issued.
Former Key West Gasification Plant Aka: Suburban Propane 726 Catherine St. Key West, FL 33040	s	COM_303264 616-1	O,W,CW	PA-9/1990 Desktop SI- 10/1993 Recommendation: NFRAP	Site Archived by EPA 10/93. State lead is FDEP-South district. PCAR completed 2/93. SL contamination confirmed. Underlying Miami Oolite limestone likely impacted. NAPL discovered. Coal tar diesel fuel wastes detected. No known source removal. Suburban Propane current owner. No viable PRP. PRP search by FDEP in early 2000's did not yield a viable PRP associated with MGP operations. FPU and Suburban Propane later identified as PRPs. 2009-10, FDEP SIS conducts PCA. PAHs, BETX, TRPHs & Sr found above GCTLs in GW. TRPHs & BaP TE found in soils above SCTLS.9/11 WP for additional GW and SL assessment & GW monitoring program. 10/12 RAP approval Order issued by FDEP for one year NAM program. First NAM event 3/13
Key West Gas & Electric Aka: Keys Energy Services Substation 101-111 Geraldine St. & 709 Fort St. Key West, FL 33040	S	COM_303264	O	PSA-1/2011 APA-10/2011 SI- 8/2012.	MGP operated late 1880's to early 1890's before relocating to Catherine Street (MGP Site # 3). Separate State petroleum program involvement. MGP/petroleum impacts (i.e. staining, odors) noted in SL & GW during SI. Arsenic, lead & PAHs (benzo [a] pyrene, dibenzo [a, h] anthracene) detected in soils. Isopropylbenzene, acenaphthene and naphthalene were detected in on-site groundwater above GCTLs. Site did not score on HRS. 11/2012 Site referred to South District for possible enforcement.

Links to electronic databases for additional Information:

FDEP Oculus: http://dwmedms.dep.state.fl.us/Oculus/servlet/login
Miami Dade County PERA em Power: http://derm.miamidade.gov/NetFYI/cgi/NetFYI/

Key to Abbreviations and Acronyms

AOC = Administrative Order on Consent (EPA)
APA = Abbreviated Preliminary Assessment
BaPTE = Benzo [a] pyrene toxic equivalents
BSRA = Brownfield Site Rehabilitation Agreement
BTEX = Benzene, Ethyl benzene, Toluene & Xylene

C = Coal Carbonization

CAR = Contamination Assessment Report

CO = Consent Order
COJ = City of Jacksonville
COSA = City of St. Augustine
COT = City of Tallahassee
CW = Carbureted water gas

Cyn = Cyanide

DERM = Dade Co. Environmental Resources

Desktop = Used PRP data

DSAP = Design Sampling & Analysis Plan DSAR = Design Sampling & Analysis Report

DW = Drainage well

EE/CA = Engineering Evaluation/Cost Analysis

ESI = Expanded Site Inspection (CERCLA)

FDER = Florida Dept. of Environmental Regulation

FDEP = Florida Dept. of Environmental Protection

FA = Further Action FP = Free Product

FPUC = Florida Public Utilities Corp. FP&L = Florida Power and Light

FS = Feasibility Study

GW

GAC = Granulated Active Carbon

= Groundwater

HASP = Health and Safety Plan HRS = Hazard Ranking System IΑ = Integrated Assessment IRA = Interim Remedial Action **IRAP** = Interim Remedial Action Plan LSI = Listing Site Investigation MGP = Manufactured Gas Plant NAM = Natural Attenuation Monitoring NAPL = Non Aqueous Phase Liquid

NFRAP = No Further (CERCLA) Remedial Action Planned NOAA = National Oceanic and Atmospheric Administration

NPL = National Priorities Listing

O = Oil gas

OCA = Other Cleanup Activity (EPA Deferred to State or County Lead)

OU = Operable Unit

PA = Preliminary Assessment (CERCLA)

PAHs Polynuclear aromatic hydrocarbons
PAR = Preliminary Assessment Reassessment

PAW = Paul A. Wierzbicki FDEP WPB District Office

PCA = Preliminary Contamination Assessment

PCAR = Preliminary Contamination Assessment Report

PERA = Miami- Dade County Permitting, Enforcement & Regulatory Affairs

PRP = Potential Responsible Party

PSA = Pre-CERCLIS Screening Assessment

RA = Risk Analysis

RAI = Request for Additional Information

RAP = Remedial Action Plan
RI = Remedial Investigation
ROD = Record of Decision
RP = Responsible party
RPM = Remedial Project More

RPM = Remedial Project Manager

SARA = Site Assessment Report Addendum

SAR = Site Assessment Report

Sed = Sediment

SI/SSI = Site Inspection/Site Investigation (CERCLA)

SIS = Site Investigation Section

SL = Soil

SED = Southeast District

Sr = Strontium

SVE = Soil Vapor Extraction
SW = Surface Water
SWD = Southwest District
TM = Technical Memorandum

TRPHs = Total Recoverable Petroleum Hydrocarbons

Unk = Unknown
VI = Vapor Intrusion
W = Water Gas
WP = Work Plan

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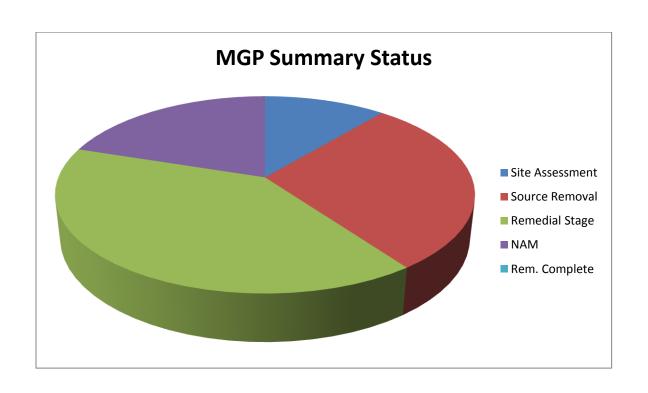
Florida MGP Summary Status 2013

Sites still in Site Assessment Stage	Sites IRA, Soil Removal, Solidification or Free Product Recovery	Remedial Activities on- going ¹	Natural Attenuation Monitoring On-going	Remediation Complete ²
5	13	18	9	6

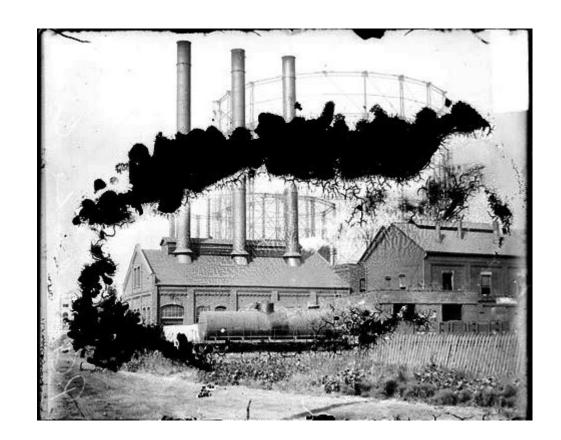
J. McCarthy, PG FDEP-3/22/13

¹ All remedial efforts for the MGP sites are funded by potential responsible parties (PRP) through either State Consent Orders or EPA Agreement on Consent Orders.

²The six completed Remediation Sites are Riverfront MGP (Palatka), St. Augustine Gas Plant, the two Deland Sites, Ft Lauderdale Gasification (Cox Plant) and Ft Myers Gasification Plant site.



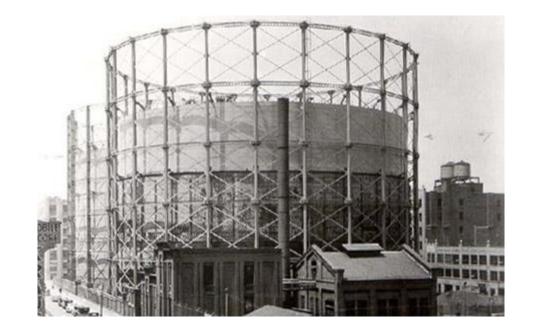
Various Depictions of MGPs



A coal-gas plant serving the Chicago area in 1909. Notice the retort building (smokestacks) and two large support cylinders for gasometers (gas storage units) behind it. These facilities typically had rail access.



Rockaway Park MGP Queens, New York

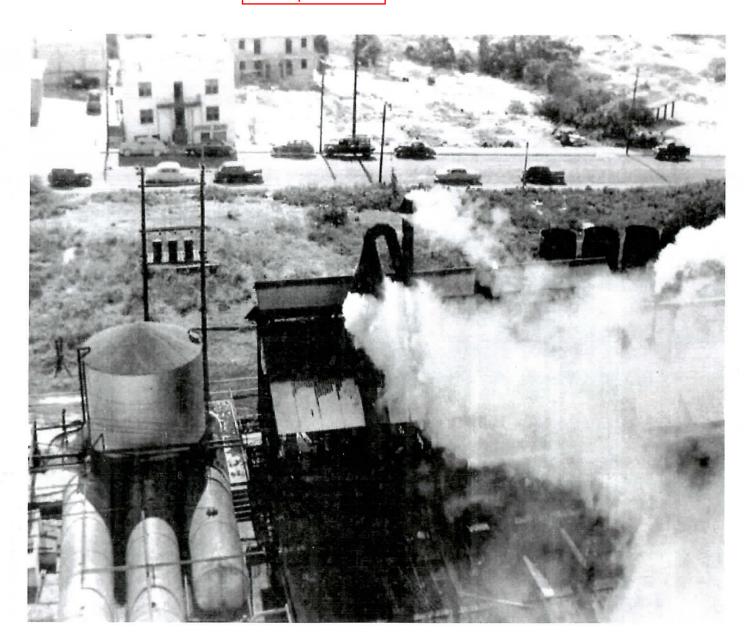


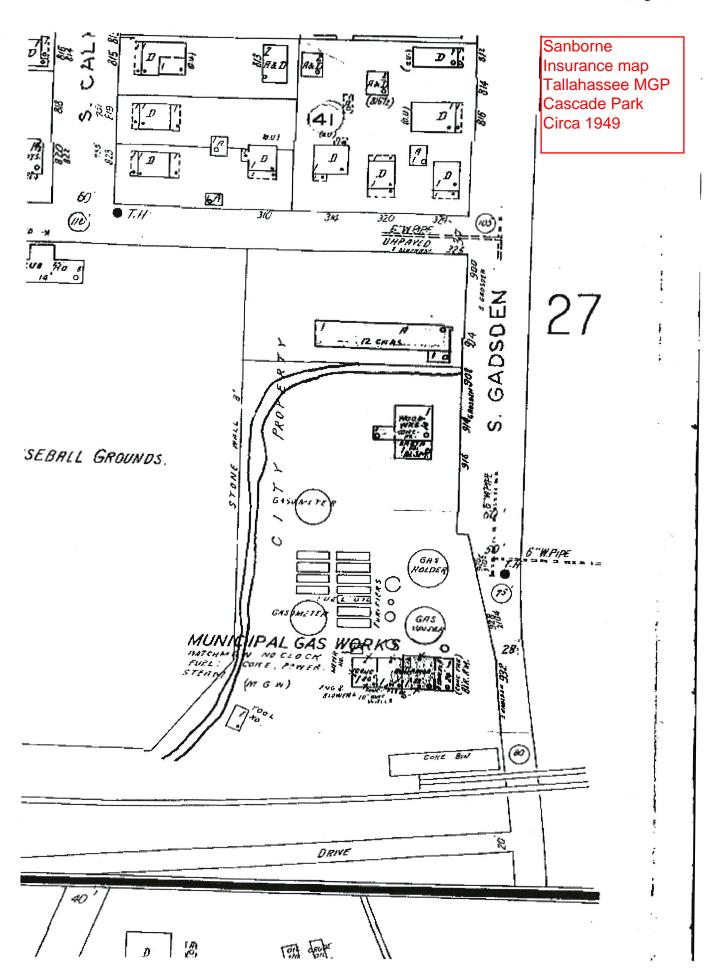
Former West 65th Street Gas Holder (Circa 1936)



MGP Wastes

West Palm Beach MGP Operation





http://sanborn.umi.com/sanborn/image/fetchimage?state=fl&reelid=reel14&lcid=1351&im...~~3/22/2013

