

Wastewater Compliance Challenges at NAVFAC Southeast

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Overview



- Background on NAS Jacksonville and NS Mayport
- Total Maximum Daily Load (TMDL) / Basin Management Action Plan for Lower St. Johns River
- Total Nitrogen Aggregate Loading Limit
- Compliance Strategy
- Way Ahead

Background



NAS Jacksonville

- Operates a 3.0 MGD permitted wastewater treatment plant (WWTP)
- Capable to treat to public access reuse standards and supplies golf courses and spray field
- Discharges to St. Johns River

NS Mayport

- Operates a 2.0 MGD permitted WWTP
- Also treats ship waste
- Discharges to St. Johns River

TMDL / Basin Management Action Plan



- The Florida Department of Environmental Protection (FDEP) adopted TMDLs for Total Nitrogen (TN) and Total Phosphorus (TP) for the Lower St. Johns River (LSJR) Basin in 2008
- Enacted a Basin Management Action Plan (BMAP) for stakeholders (i.e. municipal utilities and major industries) that discharge to LSJR Basin
- BMAP assigned specific annual loading limits for TN and TP and timeframes to meet limits

US Navy Aggregate Permit



- FDEP assigned aggregate loading limits for TN and TP for NAS Jacksonville and NS Mayport to share in a dedicated NPDES Permit
- Assigned aggregate loading limits of:
 - 25,705 lbs/year for TN
 - 23,520 lbs/year for TP
- TP limit achievable with current treatment
- TN, not so much

Compliance Strategy at NAS Jacksonville



- Maximize reuse discharge at NAS Jacksonville
 - NAS Jacksonville Golf Course and Timuquana Country Club
 - Sprayfields
 - Implement automated systems to optimize pumping of reuse water
- Explore Improvements at WWTP
 - Constructed wetland

Compliance Strategy at NS Mayport



- Initially explored connecting to local wastewater utility
 - Denied due to salinity levels in wastewater
- Proceed with upgrading WWTP
 - Treatability Study
 - Pilot study to determine best BNR technology to remove Nitrogen – Modified Ludzack-Ettinger (MLE)
 - Need to contend with salinity from ships waste
 - Design for New WWTP
 - Applies components from Treatability Study
 - Finalized in January 2017
 - Procure funding for military construction project (\$75M)
 - Project in current version of National Defense Authorization Act for Fiscal Year 2018

Way Ahead



- Continue process to build new WWTP at NS Mayport
 - Authority to Advertise (ATA) granted in May 2017
 - Requests for Proposals sent out in July 2017
 - Awaiting passage of National Defense Authorization Act for FY18
- Continue to optimize reuse system at NAS Jacksonville and explore upgrading treatment process

Questions?