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# St. Lucie Nuclear Plant

## Inspect "Y" Diffuser



**Client/Owner:** Florida Power & Light  
**Project Location:** Jensen Beach, Florida

UES provided design build services to design and implement a repair to one of two ocean outfalls offshore of the St. Lucie Nuclear power plant. The velocity of the outfall created a scour hole that had eroded material from under the end of outfall pipe in 45 feet of water. The client contacted UES in September and requested phase 1 of the repair to be implemented by the end of December.

Project difficulties:

- Remote location materials required included anti-washout concrete.
- Timeframe included worst time for anticipated sea conditions offshore in the Atlantic Ocean.
- Requested to perform repair while pipe was operating, accelerated time of delivery.

After the design of the repair the selection of a vessel able to handle anticipated sea states lead to the chartering of a lift vessel, which typically worked support for the oil industry in the Gulf of Mexico. The vessel was floated into place and then lifted above the seas on the vessels "legs." Dive operations were performed utilized a mixed gas, which allowed for longer bottom times for the commercial divers. First step was installing a series of jacks for the safety of the dive crew. UES then installed fabric form bags under the pipe, which are filled with an anti-washout concrete. Anti-washout concrete was tremie poured into additional void areas that could not be filled with the fabric form bags. Anti-washout concrete was produced by a small batch plant with an auger screw mixer. Individual concrete blocks were placed under the eastern most bag and woven together with a polyester rope for inclusion into additional articulating block mats to be placed during phase 2 of the repair. Repair was implemented ahead of schedule.