A Plan to Develop a Red Tide Warning System for Seawater Desalination Process Management

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The holt of the seawater desalination process for fifty five days due to the eight-month long red tide in 2008 in the Persian Gulf, the Middle East, had lost about 10 billion KRW. The POSCO Seawater Desalination facility, located in Gwangyang Bay Area in the Southern Sea, has produced 30,000 tons of fresh water per day since 2014. Since there has been an incident of red time in the area for three months in August, 2012, it is necessary to establish a warning system for red tide that threatens the stable operation of the seawater desalination facility. A red tide warning system can offer the seawater desalination facility manager customized services on red tide information and potential red tide inflow to the water intake. This study aimed to develop a red tide warning system in Gwangyang Bay Area by combining RS, modeling and monitoring technologies, which provides red tide forecasting information with which to effectively control the seawater desalination process. Using the proposed system, the seawater desalination facility manager can take phased measures to cope with the inflow of red tide.