Biofouling is one of the most common and most severe problems in the operation of RO systems. It is particularly important to control microbiological activity in plants using surface water or bacteria-contaminated water as a feed source. A properly designed system is a prerequisite for success:

- If intermediate open basins or tanks are used, provisions should be made to allow for proper sanitization at that open source and the part of the system downstream from it.
- If intermediate sealed tanks are used, their air breathing or ventilation systems should be equipped with bacteria-retaining devices (e.g. HEPA filters).
- Blind, long pieces of piping should be avoided by design, and when unavoidable, should be periodically sanitized.
- The components of the pretreatment system such as pipes, manifolds, filters and retention tanks should be opaque to sunlight to avoid enhancing the biological growth.
- Stand-by devices with large surfaces, like sand or cartridge filters, should be avoided. If they are not avoidable, drains should be installed to allow discharge of the sanitization chemicals after the devices have been sanitized, and before connecting them to the active system.
- It should be made possible to physically isolate the RO/NF section from the pretreatment by using a flange. This allows to use chlorine for sanitizing the pretreatment section while the membranes are protected from chlorine contact. A drain valve should be installed at the lowest point close to the flange, to allow complete drainage of the chlorine solution.
- Membrane selection: FilmTec offers membranes with a special surface that makes them more resistant against biofouling. These so-called BW30FR elements are typically selected for surface waters and tertiary effluent treatment. Other special element types are made with a full-fit configuration for applications requiring sanitary grade membrane elements. The full-fit configuration minimizes stagnant areas and complies with FDA standards. See also Element Characteristics (Section 1.8), and the relevant Product Information Sheets.
FILMTEC™ Membranes
For more information about FILMTEC membranes, call the Dow Liquid Separations business:
North America: 1-800-447-4369
Latin America: (+55) 11-5188-9222
Europe: (+32) 3-450-2240
Pacific (ex. China): +800-7776-7776
China: +10-800-600-0015
http://www.filmtec.com

Notice: The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

Notice: No freedom from any patent owned by Seller or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Seller assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.