

108050000-TD80021-R00

# Spallation Neutron Source

## Site Utilities Sewer System Controls Functional System Design (FSD)

January, 2003

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SNS Project Engineer



A U . S . D e p a r t m e n t o f E n e r g y M u l t i l a b o r a t o r y P r o j e c t

SPALLATION NEUTRON SOURCE

Argonne National Laboratory • Brookhaven National Laboratory • Lawrence Berkeley National Laboratory • Los Alamos National Laboratory • Oak Ridge National Laboratory

**Site Utilities Sewer System Controls Description**  
**TD80021 Rev 0, January 13, 2003**

**Operating Philosophy**

Purpose:

The purpose of the sewer system operation is to:

- a) Provide an operator indication of the flow rate of the waste water out of the Sanitary Sewer Pump Station to the city sewer.
- b) Provide an operator indication of the current status of each of the two sanitary sewer pumps.
- c) Provide alarm indication for pump failure, low level alarm, high level alarm, and loss of power.

Assumptions:

- 1) Running both pumps simultaneously is not acceptable.
- 2) Detection of power loss is performed by the MCC.
- 3) Pump controls are performed at the MCC only, so there is no remote control from the EPICS screens.

Operator Controls and Operating Modes

None

**OPERATOR INTERFACE DEFINITIONS**

Local Hardware/Manual Operator Controls

- 1) Off – Turn off each sanitary sewer pumps (*P-SP-01, P-SP-02*)
- 2) On – Turn on each sanitary sewer pumps (*P-SP-01, P-SP-02*)

Software HMI/EPICS Digital Operator Controls

None

Software HMI/EPICS Digital Displays

- 1) Sanitary sewer pump status (*YI9703A, YI9703B*)

Software HMI/EPICS Analog Operator Controls

None

Software HMI/EPICS Analog Displays

- 1) Sanitary sewer waste water flow rate (*FT9703*)

## Alarms

- 1) Power loss failure (YA9704)
- 2) Sanitary sewer pump A failure (YA9703A)
- 3) Sanitary sewer pump B failure (YA9703B)
- 4) Low level alarm (LAL9703)
- 5) High level alarm (LAH9703)

## Control Logic Description

None

