

PACKAGE ID - 001200V400000 AMS

KWIC TITLE - Alarm Management System for the D/3
Distributed Control System

AUTHORS - McEver, M.E.
Westinghouse Savannah River Co, Aiken, SC (United
States)

LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 03/14/1995 **PUBLICATION DATE** - 01/01/1995

DESCRIPTION - As industrial processes continue to grow in size and complexity, the Distributed Control Systems that automate and monitor these processes expand in a like manner. This increase in control system complexity has resulted in ever increasing numbers of alarms presented to the operator. The challenge for today's control system designer is to find innovative ways to present alarm information to the operator such that despite the large number of alarms, the operator is able to quickly assess the status of the plant and immediately respond to the most critical alarms in a timely manner. This software package, designed and developed for the Savannah River Site Replacement High Level Waste Evaporator/Waste Removal Distributed Control System installed on the H-Area Tank Farm, provides an alarm system which utilizes the annunciator (SKID) panel as a means of statusing the plant and providing single keystroke access to the display on which an alarm resides.

PACKAGE CONTENTS - Media Directory; Software Abstract;
WSRC-MS-97-0293/WSRC-TR-95-0110; Media Includes Source Code,
Executables, and Object Codes:

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - By creating a function which enables the dynamic updating of a SKID key's associated display, the AMS is able to provide priority based single keystroke access to the display on which an alarm resides. Furthermore, by using the SKID lamps to signal various alarm conditions, the SKID panel becomes an alarm status board.

COMPUTER - VAXSTA4000/60

OPERATING SYSTEMS - VAX VMS 5.5-2

PROGRAMMING LANGUAGES - VAX C

SOFTWARE LIMITATIONS - The AMS is written specifically for GSE-PSI D/3 Distributed Control Systems and has been tested only on versions

PACKAGE ID - 001200V400000 AMS

SOFTWARE LIMITATIONS - (CONT) 6.2 and 6.3 of the D/3 software. Further AMS limitations include a maximum of 1536 EPNs per DCM and a strong recommendation that the AMS not be installed on a CDCM or DCM running the GSE product TrendR.

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - The AMS is a C program designed to run at the Display Control Module (DCM) level and is generated for small to medium I/O D/3 Distributed Control Systems. The AMS provides alarm prioritization and single keystroke access to the display on which an alarm resides. Configuration of the AMS consists of a single text file which contains only a list of SKID key numbers and the EPNs associated with that SKID key. The truly unique feature of the AMS is the ability to dynamically change the display a SKID key activates when pressed by the user.

RELATED SOFTWARE - The AMS is a layered product designed to function as an enhancement to the standard D/3 alarm handling package.

OTHER PROG/OPER SYS INFO - A VAX C license is required to compile the AMS and a GSE-PSI D/3 Distributed Access License is required for run-time operation of the AMS.

HARDWARE REQS - The AMS was designed and tested on a VAX station with 40 MB of memory.

TIME REQUIREMENTS - Installation time for the AMS software is minimal. The majority of the time required of AMS start-up will be in the determination of the number of SKID keys allocated to the AMS, the EPNs associated with the SKID keys, and the priority each EPN has relative to the other EPNs associated with the same SKID key. These are facility dependent.

REFERENCES - M. McEver, Alarm Management System for the D/3 Distributed Control System, WSRC-MS-97-0293/WSRC-TR-95-0110, 1995.

ABSTRACT STATUS - Released AS-IS 3/5/98.

SUBJECT CLASS CODE - GM

KEYWORDS -
COMPUTER PROGRAM DOCUMENTATION
A CODES
CONTROL SYSTEMS
ALARM SYSTEMS

EDB SUBJECT CATEGORIES -
426000 990200

SPONSOR - DOE/ER

PACKAGE TYPE - AS - IS