

Table 3.2-A (Continued)
ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	TRIP LEVEL SETTING	APPLICABLE OPERATING MODE	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM ^(a)	VALVE GROUPS ISOLATED BY SIGNAL	ACTION
<u>Secondary Containment</u>					
Refuel Floor Exhaust Duct - High Radiation	≤ 9 mr/hr	1,2,3 and *	1	3(c)	26
Reactor Building Exhaust Shaft - High Radiation	≤ 11 mr/hr	1,2,3 and *	1	3(c)	26
Offgas Vent Stack - High Radiation	$\leq 1.5 \times 10^4$ cps Note k	1,2,3 and * Note m	1	3(c)	26 27
<u>RHR System Shutdown Cooling</u>					
Reactor Vessel Pressure - High	≤ 135 psig	1,2,3	1	4	23
<u>Reactor Water Cleanup</u>					
RWCU Differential Flow - High	≤ 40 gpm	1,2,3	1	5	23
RWCU Area Temperature - High	$\leq 130^\circ\text{F}$	1,2,3	1	5	23
RWCU Area Ventilation Differential Temperature - High	$\Delta 14^\circ\text{F}^{(d)}$	1,2,3	1	5	23
Standby Liquid Control System Initiation	NA	Note i	1	5(i)	23
RWCU Area Near TIP Area Ambient Temperature - High	$\leq 111.5^\circ\text{F}$	1,2,3	1	5	23

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ISOLATION ACTUATION INSTRUMENTATIONACTION

- ACTION 20 - Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- ACTION 21 - Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- ACTION 22 - Be in at least STARTUP within 6 hours.
- ACTION 23 - Close the affected system isolation valves within one hour and declare the affected system inoperable.
- ACTION 24 - Not Used
- ACTION 25 - Restore the manual initiation function to OPERABLE status within 8 hours or close the affected system isolation valves within the next hour and declare the affected system inoperable. ~~Isolate Secondary Containment~~
- ACTION 26 - ~~Establish SECONDARY CONTAINMENT INTEGRITY~~ with the Standby Gas Treatment System operating within one hour.
- ACTION 27 - Within one hour, close the primary containment vent and purge valves, or establish administrative control of those valves

NOTES

- with continuous monitoring of alternate instrumentation.
- * When handling irradiated fuel in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.
 - ** When any turbine stop valve is greater than 90% open and/or when the key-locked bypass switch is in the NORM position.
 - (a) When a channel is placed in an inoperable status solely for performance of required surveillances, entry into associated Limiting Conditions for Operation and required Actions may be delayed as follows: (1) for up to 6 hours for RWCU Differential Flow-High, RCIC Manual Initiation, HPCI Manual Initiation; and (2) for up to 6 hours for the remaining Trip Functions provided the associated Trip Function maintains isolation capability.
 - (b) Operates Group 1 valves except Main Steam Isolation Valves. Also trips Mechanical Vacuum Pump which results in a subsequent isolation of the Mechanical Vacuum Pump suction valves.
 - (c) Also starts the Standby Gas Treatment System.
 - (d) Actual setpoint shall be 14°F above the 100% operation ambient temperature conditions as determined by DAEC plant test procedure.
 - (e) Closes MO-2701 and MO-2740 only.
 - (f) Requires system steam supply pressure-low coincident with drywell pressure-high to close HPCI/RCIC exhaust vacuum breaker valves.
 - (g) Manual isolation closes MO-2401 only, if RCIC initiation signal present.
 - (h) Manual isolation closes MO-2239 only, if HPCI initiation signal present.
 - (i) When the Standby Liquid Control System is required to be OPERABLE per Specification 3.4.A.
 - (j) Within 24 hours prior to the planned start of the hydrogen injection test with the reactor power at greater than 20% rated power, the normal full-power radiation background level and associated trip setpoints may be changed based on a calculated value of the radiation level expected during the test. The background radiation level and associated trip setpoints may be adjusted during the test program based on either calculations or measurements of actual radiation levels resulting from hydrogen injection. The background radiation level shall be determined and associated trip setpoints shall be set within 24 hours of reestablishing normal radiation levels after completion of the hydrogen injection test or within 12 hours of establishing reactor power levels below 20% rated power, while these functions are required to be operable.
 - (k) The monitors shall be set to initiate isolation at a setting equivalent to or below the dose rate limits in OoAM section 6.2.2.1.
 - (m) During VENTING or PURGING of primary containment at any time when PRIMARY CONTAINMENT INTEGRITY is required.

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Both of the scram discharge volume high level channels provide input to the "B" logic.

The refueling interlocks operate one logic channel, and are required for safety only when the mode switch is in the refueling position.

For effective emergency core cooling for small pipe breaks, the HPCI system must function since reactor pressure does not decrease rapidly enough to allow either core spray or LPCI to operate in time. The Automatic Depressurization System (ADS) is provided as a backup to HPCI. The arrangement of the ADS logic is such as to provide this function when necessary and minimize spurious operation. The trip settings given in the specification are adequate to assure the above criteria are met. The specification preserves the effectiveness of the system during periods of maintenance, testing, or calibration, and also minimizes the risk of inadvertent operation; i.e., only one instrument channel out of service.

Two air ejector offgas post-treatment monitors are provided. They are designed so that an instrument failure gives a downscale trip or an inoperative trip. When both instruments reach an upscale trip point, or when one reaches an upscale trip point and the other reaches a downscale trip point or an inoperative trip, a trip is actuated. The post-treatment monitors have three upscale trip setpoints, one (Hi, to initiate charcoal bed bypass valve closure (CV-4134A open and CV-4134B closing to route offgas through the charcoal) and another (Hi-Hi-Hi) to initiate offgas system isolation valve (CV-4108) closure. The third trip point (Hi-Hi) is for alarm initiation, and will initiate prior to the offgas isolation trip.

Two sets of two radiation monitors are provided which initiate the Reactor Building Isolation function and operation of the standby gas treatment system. Two instrument channels monitor the radiation from the refueling area ventilation exhaust ducts and two instrument channels monitor the building ventilation below the refueling floor. INSERT

Trip settings of < 9 mr/hr for the monitors in the refueling area ventilation exhaust ducts are based upon initiating normal ventilation isolation and standby gas treatment system operation so that none of the activity released during the refueling accident leaves the Reactor Building via the normal ventilation path but rather all the activity is processed by the standby gas treatment system.

High radiation monitors in the main steam line tunnel have been provided to detect gross fuel failure. In the event of a gross fuel failure, the established setting of 3 times normal full power background radiation levels (accounting for the N-16 carryover due to Hydrogen Water Chemistry) will trip the Mechanical Vacuum Pump, which in turn isolates the suction of the Mechanical Vacuum Pump from the high and low pressure condensers. This prevents the release of untreated fission products to the environment via the Mechanical Vacuum Pump.

Flow integrators are used to record the integrated flow of liquid from the drywell sumps. The alarm unit in each timer is set to annunciate before the values specified in Specification 3.6.C are exceeded. An air sampling system is also provided, as a backup to the sump system, to detect leakage inside the primary containment.

INSERT

A third set of two radiation monitors is included in the Offgas Vent Stack. The Offgas Vent Stack radiation monitors initiate a Group III isolation as a convenient means to terminate primary containment VENTING or PURGING upon detection of high radiation in the effluent. This isolation signal was added in response to NUREG 0737, Item II.E.4.2(7). When these instruments are not OPERABLE, the activity for which the isolation was intended must be terminated or administrative control must be implemented. The VENTING or PURGING of Primary Containment may proceed under administrative control providing the following conditions are met: (1) station an operator at the valve controls, and (2) that operator is instructed to terminate VENTING or PURGING when procedures direct valve closure.

Environmental Consideration

10 CFR 51.22(c)(9) identifies certain licensing and regulatory actions which are eligible for categorical exclusion from the requirement to perform an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operations of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; and (3) result in an increase in individual or cumulative occupational radiation exposure. IES Utilities Inc. has reviewed the proposed amendment and determined that it meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of this amendment. The basis for this determination follows:

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons:

1. As demonstrated in Attachment 1, the proposed amendment does not involve a significant hazards consideration.
2. The proposed revisions to the "Applicable Operating Mode" and the "Action" are administrative in nature and only serve to assure that the isolation is functional in the plant condition in which it is assumed to occur. The termination of containment venting upon increased radioactivity will still occur as required, whether automatically by the TS required instrumentation, or manually by operator action as a procedurally controlled compensatory measure. The setpoint for the isolation will still assure compliance with pre-approved limits through the Offsite Dose Assessment Manual (ODAM).
3. The proposed revisions to TS section 3.2.A have no effect on individual or occupational radiation exposures. The limitations on offsite radioactive gaseous releases will still be enforced in accordance with the ODA.

Safety Assessment1. Introduction

By letter dated November 10, 1994, IES Utilities Inc. requested changes to the Duane Arnold Energy Center (DAEC) Technical Specifications (TS) Section 3.2.A. The requested change would revise the "Applicable Operating Mode" and "Action" for the Offgas Vent Stack radiation monitors. The revision would make the requirements for instrument operability match the assumption for when the isolation would occur and provide allowance for reasonable, preplanned compensatory measures for the times when these instruments are not operable, but there is a need to continue containment venting. The change to the isolation setpoint provides a reference to the appropriate offsite dose limit in the ODAM. The required Action for the other two isolation functions initiating secondary containment isolation is a correction. Current DAEC practice is to isolate secondary containment when either of these isolation functions are out of service, and that is the appropriate, conservative action.

2. Assessment

The proposed changes will make the TS requirements for instrument operability consistent with the assumption contained in the accident analysis and are consistent with the functional requirement contained in NUREG 0737, Item II.E.4.2(7). The revised TS will assure that containment venting is terminated upon detection of increased gaseous effluent radioactivity beyond acceptable limits. The revised TS Actions will further assure that no unmonitored releases take place by requiring secondary containment isolation in the event that the isolation function monitoring the Refuel Floor Exhaust Duct or the Reactor Building Exhaust Shaft are inoperable.

Based upon the above assessment, we conclude that this request is acceptable.