Arkansas Nuclear One - Administrative Services
Document Control

Procedure/Work Plan/Form Update Notification

Thursday, December 07, 1995

COPYHOLDER NO:	**103**
TO:	**NRC - WASHINGTON**
ADDRESS:	**NRC**
DOCUMENT NO:	**OP-1904.002**
TITLE:	**OFFSITE DOSE PROJECTION RDACS COMPUTER METHOD**
REVISION NO:	**27**
CHANGE NO:	**PC-02**
SUBJECT:	**PERMANENT CHANGE (PC)**

A009

ENTERGY OPERATIONS INCORPORATED
ARKANSAS NUCLEAR ONE

TITLE: OFFSITE DOSE PROJECTIONS RDACS COMPUTER METHOD

PROC/WORK PLAN NO.	REV.
1904.002	27
EXP. DATE	SAFETY-RELATED ☒YES ☐NO
PAGE 1 OF 1	IPTE ☐YES ☒NO

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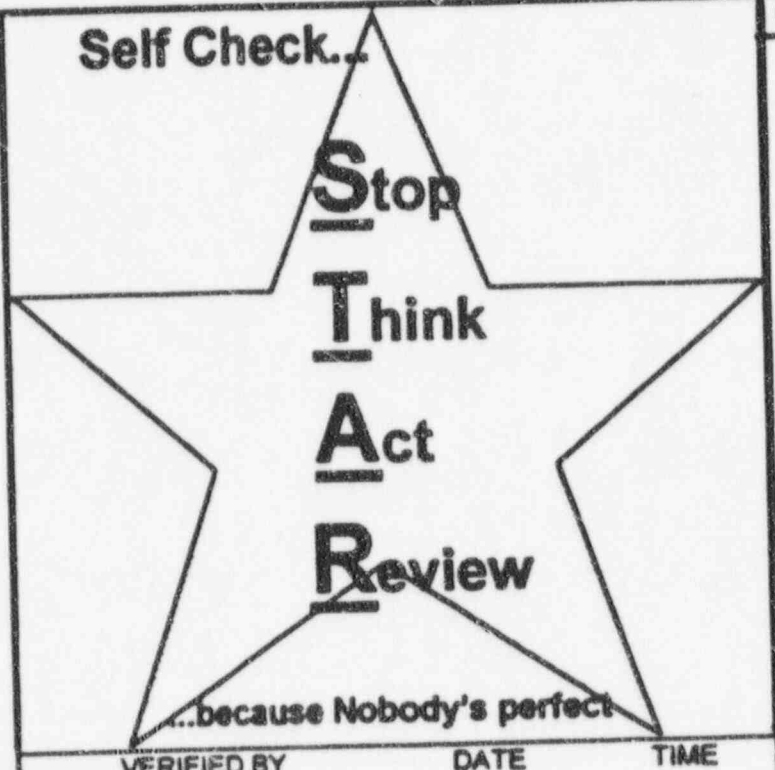

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8.0 RDACS MENU STRUCTURE (Continued)

B. Enter Plume Update - this option is used to enter current or forecasted data into the model.

1. Update Parameters & Meteorology - this option is used in backup and forecast modes to enter current or forecasted meteorological data.

2. Releases from Monitored Points - this option is used in backup and forecast modes to enter current or forecasted radiological data from monitored release points.

3. Releases from Unmonitored Points - this option is used in auto, backup and forecast modes to enter current or forecasted radiological data from unmonitored release points.

4. Dose Scale Factors - this option is used in auto, backup and forecast modes to enter the current correction factors for matching the models projected data to the actual data measured in the field.

5. Isotopic Distributions - this option is used in auto, backup and forecast modes to enter the current isotopic distribution determined by sampling an active release point.

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6. Revise Model Constants - Item not active.

7. Execute Model - this option is used in backup and forecast modes to process manually entered data.

C. Display Plume Data - this option is used to view on the screen data processed for each plume segment.

1. Emergency Class - this option is used to view the current emergency class calculated by the model after processing is complete.

2. Plume Segment Data - this option is used to view the current plume characteristics and parameters for drawing the plume on a ten mile EPZ map.

3. Plume Centerline Data - this option is used to view the centerline dose values for a variety of distances down the centerline of the plume.

4. Dose Evaluation Points - this option is used to view data calculated at the dose evaluation points for Total Effective Dose Equivalent (TEDE) dose rate, TEDE cumulative dose, Child Thyroid dose rate and Child Thyroid cumulative dose.

8.0 RDACS MENU STRUCTURE (Continued)

5. Plume Update Input - this option is used to view meteorological, radiological, scale factor and isotopic distribution data for the current plume segment.

D. Print Plume Data - select this option to print data processed for each plume segment.

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1. Routine Reports (prints 2-7) - this option is used to print the entire report for a projected or forecasted plume update.

2. Emergency Class - this option is used to print the current emergency class calculated by the model after processing is complete.

3. Plume Segment - this option is used to print the current plume characteristics and parameters for drawing the plume on a ten-mile EPZ map.

4. Plume Centerline - this option is used to print the centerline dose values for a variety of distances down the centerline of the plume.

5. Dose Evaluation Points - this option is used to print data calculated at the dose evaluation points for TEDE dose rate, TEDE cumulative dose, Child Thyroid dose rate and Child Thyroid cumulative dose.

6. Plume Parameters and Meteorology - this option is used to print meteorological data used for a particular plume segment.

7. Release Rates - this option is used to print radiological data used for a particular plume segment.

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8. Dose Scale Factors and Isotopic Distributions - this option is used to print the current dose scale factor information as well as isotopic distribution information for each release point.

8.0 RDACS MENU STRUCTURE (Continued)

E. Protective Action Recommendation - This option allows the RDACS user to calculate a protective action based on dose rate and meteorological information.

F. Accept New Update - This option allows the user to accept calculated plume data from the file server in response to a "New Update Available" message.

G. Draw Plume Map - This option allows the user to view a displayed 1, 10 or 50-mile EPZ map showing the projected position of a radioactive plume along with dose data and the derived emergency class.

H. Switch Operating Modes - This option allows the user to switch from one operating mode to another and transfers a user specified number of updates from the current mode of operation to the specified mode of operation.

I. Terminate an Event - This option is used by the Emergency Planning/Computer Support groups to terminate an event once a release has stopped and conditions are favorable to do so (i.e., possible duplication to a backup data source).

J. RDACS/Field Data Comparison Sheet - This option prints the most recent RDACS update centerline dose rates to allow the user to log and compare with field team dose rate information. This report also provides a ratio of the RDACS TEDE dose rates to Whole Body Gamma dose rates.

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9.3.6 Calculate Protective Action Recommendation (PAR)

NOTE

Movement on the PAR screen requires the use of the **<TAB>** key. Data must be entered into the appropriate highlighted areas before RDACS will allow you to proceed to the next step.

The Average Release Rate Factor and Expected Release Duration will have to be estimated.

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A. Request "Average Release Rate Factor" and "Expected Release Duration" from one of the following:

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1. *Shift Superintendent
2. TSC Director
3. TSC Operations Manager

*Initial Dose Assessor only.

B. Once you have obtained an RDACS "Emergency Class Report" and a "Plume Map", select Option 5, "Protective Action Recommendation" from the RDACS Subsystem Main Menu and perform the following steps:

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1. Average Release Rate Factor -

   a. If the release has stopped, then enter "1". Then depress **<Tab>**.

   b. If the release is continuing, quantify the estimate obtained in step A above, e.g. if the release is expected to double then enter a factor of "2". Then depress **<Tab>**.

   c. If unknown, enter a factor of "1". Then depress **<Tab>**.

2. Expected Release Duration - Enter duration in hours (20 minutes should be entered as 0.3 hr.)

   a. If the release has stopped, use the actual release duration in hours. Then depress **<Tab>**.

   b. If the release is continuing, enter the estimate in hours obtained in step A above and then depress **<Tab>**.

   c. If unknown, enter 4 hours. Then depress **<Tab>**.

3. Current Sky Condition - If unknown, move the cursor to the "Clear Skies" bracket using the arrow keys and then depress the **<SPACE>** bar.

9.3.6 Calculate Protective Action Recommendation (PAR) (Continued)

4. Wind Direction - **Automatically entered**. You may overwrite these values as required.

5. Centerline Dose Rates - **Automatically entered**. You may overwrite these values as required.

6. Depress the **<F2>** key to calculate a Protective Action Recommendation (PAR).

7. Print the calculated PAR by depressing the **<F9>** key.

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C. Initial Dose Assessor - Remove the last sheet of the RDACS Routine Report, which is the "RDACS/Field Data Comparison Sheet", and throw away this sheet. For the initial PAR and subsequent PARs that change, review the "Emergency Class Report" and PAR with the Shift Superintendent and have the Shift Superintendent sign the PAR and approval sheet at the end of the reports.

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D. Dose Assessment Team - Remove the last sheet of the RDACS Routine Report, which is the "RDACS/Field Data Comparison Sheet", and route this sheet to the DAT Map Maker. Then review the RDACS reports, plume map and PAR printed with the DAS and have the DAS sign the PAR and the approval sheet at the end of the reports.

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E. Following the initial generation of plume segment data, continue to monitor for releases. As either time allows or as the unmonitored release changes, return to Section 9.3 and repeat steps 9.3.1, 9.3.4, 9.3.5, and 9.3.6.