

CERTIFICATION PLAN FOR THE
UMTRA PROJECT PROCESSING SITES

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of the Uranium Mill Tailings Remedial Action (UMTRA) Project Certification Plan for Processing Sites is to establish certification procedures and to identify responsibilities of participatory agencies as legislated by the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978 (Public Law 95-604). Certification, is the process by which the Department of Energy (DOE), with concurrence of the Nuclear Regulatory Commission (NRC), determines that remedial action has been completed in accordance with the requirements of the Act and pursuant to standards promulgated by EPA (40-CFR-192).

Certification of the remedial action is part of the licensing process. A chronological sequence of events beginning with the development of a remedial action plan and ending with the issuance of a license as outlined in the following steps, demonstrates how each subsequent event in the process is based upon the previously approved event:

LICENSING PROCESS

- o Remedial action plan.
- o Final design and specifications.
- o In-process audits/surveillances of the remedial action.
- o Draft license application (with maintenance and surveillance plan).
- o **Certification** of the remedial action (includes final audit report).
- o Issuance of a license.
- o Maintenance and surveillance.

This plan is intended to aid in meeting the objectives of certification by identifying the necessary institutional controls, participatory agency responsibilities, and milestones in the certification process.

1.2 CERTIFICATION POLICY AND METHODS

Pursuant to the requirements of Public Law 95-604, it is the policy of the Department of Energy to conduct remedial actions in such a manner as to be able to demonstrate that work was done according to the design and that all applicable standards are met. This is accomplished through the use of DOE approved procedures whereby the contractors are required to adhere to the design specifications and to carefully document the construction activity. Should design changes be desirable or necessary, the contractor must obtain DOE approval prior to proceeding. This documentation of design changes and construction activity is provided in the completion report and is the principal source of information on the conduct of the remedial action.

The Remedial Action Contractor(s) responsible for conducting remedial action at UMTRA sites will provide a Site Completion Report to DOE for review upon completion of remedial action. The report will be composed of records collected during remedial action construction, including but not limited to, technical specifications, design criteria, design calculations, as-built drawings, summaries of field-test reports, verification measurements and descriptions of pre- and post-remedial action conditions.

Periodic quality assurance audits are performed to ensure contractor compliance with the UMTRA Project's and contractor's quality assurance plans. In addition, independent radiological and construction surveillances will be performed on those Remedial Action Contractor's (RAC) activities that are directly related to meeting the EPA standards. These independent surveillances result in an evaluation of compliance of the remedial action with relevant specifications and standards, an assessment of the RAC's accuracy in measurement of radiological and other physical conditions, an assessment of completeness of the remedial action, and a determination of the readiness of the site for certification by DOE.

Surveillance visits by DOE personnel, DOE's contractor representatives, and personnel of other implementing agencies may be documented; these reports may be used by DOE to provide evidence that the remedial action was conducted according to the plan and in compliance with the standards.

A Final Audit Report, consisting of a compendium of the quality assurance audit reports, the radiological and construction surveillance reports, and other surveillance reports shall be prepared. In addition, a DOE Certification Summary will be prepared which will provide an assessment of the effectiveness of the RAC's performance in carrying out the remedial action. The Final Audit Report and the Certification Summary, along with a Completion Report which documents the final conditions of the site will be the major constituents of the Certification Report. The certification process will culminate with the "Site Certification Report" which will be approved by DOE and concurred in by the NRC.

2.0 CERTIFICATION REPORT

Upon completion of the remedial action at the processing site, DOE shall prepare a Certification Report consisting of:

- A. DOE Certification Summary
- B. Site Completion Report containing:
 - 1. Executive Summary
 - a. Introduction.
 - b. Design Assessment.
 - c. Remedial Action Assessment.
 - d. Certification Bases.
 - 2. Appendices
 - a. Design Criteria.
 - b. Technical Specifications.
 - c. Design Calculations.
 - d. As-built Drawings.
 - e. Field Test Results.
 - f. Verification Measurements.
 - g. Permits.
 - h. Pre-remedial action Site Conditions.
 - i. Post-remedial Action Site Conditions.
 - j. Remedial Action Contractor Internal Audits and Surveillance.
- C. Final Audit Report containing:
 - 1. Audit and Surveillance Report Summary.
 - 2. Quality Assurance Audit Report Summary.
 - 3. Radiological and Construction Surveillance Report Summaries.
 - 4. Summaries of Other Surveillance Reports (by DOE, NRC, or others).

2.1 DOE CERTIFICATION SUMMARY APPENDIX

The DOE Certification is a statement by the DOE that the provisions of the approved Remedial Action Plan and final design have been satisfied and, as a result the EPA standards have been met. The basic format is shown in Appendix A.

In cases where supplemental standards were applied, a Certification Appendix shall be prepared detailing the site conditions that result from the application of supplemental standards and the suggested maintenance, monitoring, or emergency concerns that must be considered in the licensing process.

2.2 SITE COMPLETION REPORT

The RAC shall prepare the Site Completion Report for DOE review and approval. The Site Completion Report shall include a description of pre- and post-remedial action conditions, a description of the remedial action, as-built drawings, field test reports, specifications and calculations, and verification measurement results. The report shall be reviewed for

consistency with the approved Remedial Action Plan for processing sites and the final approved design. Deviations from the plans shall be documented. Documentation from the DOE or NRC authorizing these construction changes shall be included. A detailed outline of the RAC Site Completion Report is provided in Appendix 2.

2.3 FINAL AUDIT REPORT

The Final Audit Report shall be a compendium of the following:

2.3.1 Audit and Surveillance Report Summary

The DOE shall prepare a summary of the surveillance and audit reports, reflecting the quality of the work done at the site, with special emphasis on those tasks related to meeting the EPA standards.

2.3.2 Quality Assurance Audit Reports

Programmatic Quality Assurance Audits shall be periodically conducted by DOE, with assistance from the TAC, to verify that the procedures and systems required by the respective quality assurance programs are being implemented during remedial action. The Programmatic Quality Assurance Audits shall be performed on the frequency of approximately one per year for each organization and subcontractor conducting UMTRA Project work at a processing site. The results of these audits and follow-up actions shall be documented and included in the Final Audit Report.

2.3.3 Radiological and Construction Surveillance Reports

Radiological and Construction Surveillances shall be conducted by the TAC to provide an independent assessment that the quality of remedial action work is sufficient to ensure that the EPA standards are met. These performance surveillances will complement the quality assurance programs and audits and provide a high degree of assurance that the standards-related tasks are accomplished satisfactorily. Performance surveillances shall be conducted at a processing site, a minimum of once per construction season, or twice per remedial action. Specific attention shall be given to the contractor's radiological survey plans and procedures, the Remedial Action Inspection Plan, measurement techniques, and data management capabilities. These surveillances are conducted using procedures approved by the DOE.

For disposal sites, very carefully controlled construction practices are required to control erosion, contaminant leachate, and radon flux. The work and associated geotechnical tests required to meet the design specifications shall be subject to independent construction surveillance procedures. A qualified civil engineering quality inspector, using appropriate procedures shall

periodically inspect the work at the site to assure that procedures are being followed and that the contractor's analytical capabilities are of sufficient quality. Documentation of these inspections shall be provided in the Final Audit Report.

2.3.4 Summaries of Other Surveillance Reports

Reports or summaries of audits conducted by the NRC, states or tribes, or other government agencies will be included when appropriate.

3.0 CERTIFICATION PROCEDURES

The Remedial Action Plan (RAP) shall be concurred upon by the NRC, and the affected states or tribes. The RAC's final remedial action design shall then be based on the RAP. TAC review and approval of the RAC's final design will ensure DOE that it is in compliance with the RAP and that EPA standards have been satisfied. In cases where the final design is significantly different than the SCD in the RAP, the DOE will submit the final design to the NRC for approval.

Prior to or during construction, the NRC, will identify any construction activities that they wish to witness. DOE will coordinate the construction such that the NRC or the State are notified of the approximate time that they should visit the site. Audit or Surveillance reports prepared by the NRC shall be forwarded to the DOE for use in certification.

DOE shall prepare the Certification Report for review and concurrence by the NRC.

The procedure for completing the certification process is illustrated in Figure 1 and is anticipated to take approximately ten months. Figure 2 shows the construction and certification schedule for the processing sites, based upon the present schedule.

Figure 1 Certification process - UMTRA processing sites

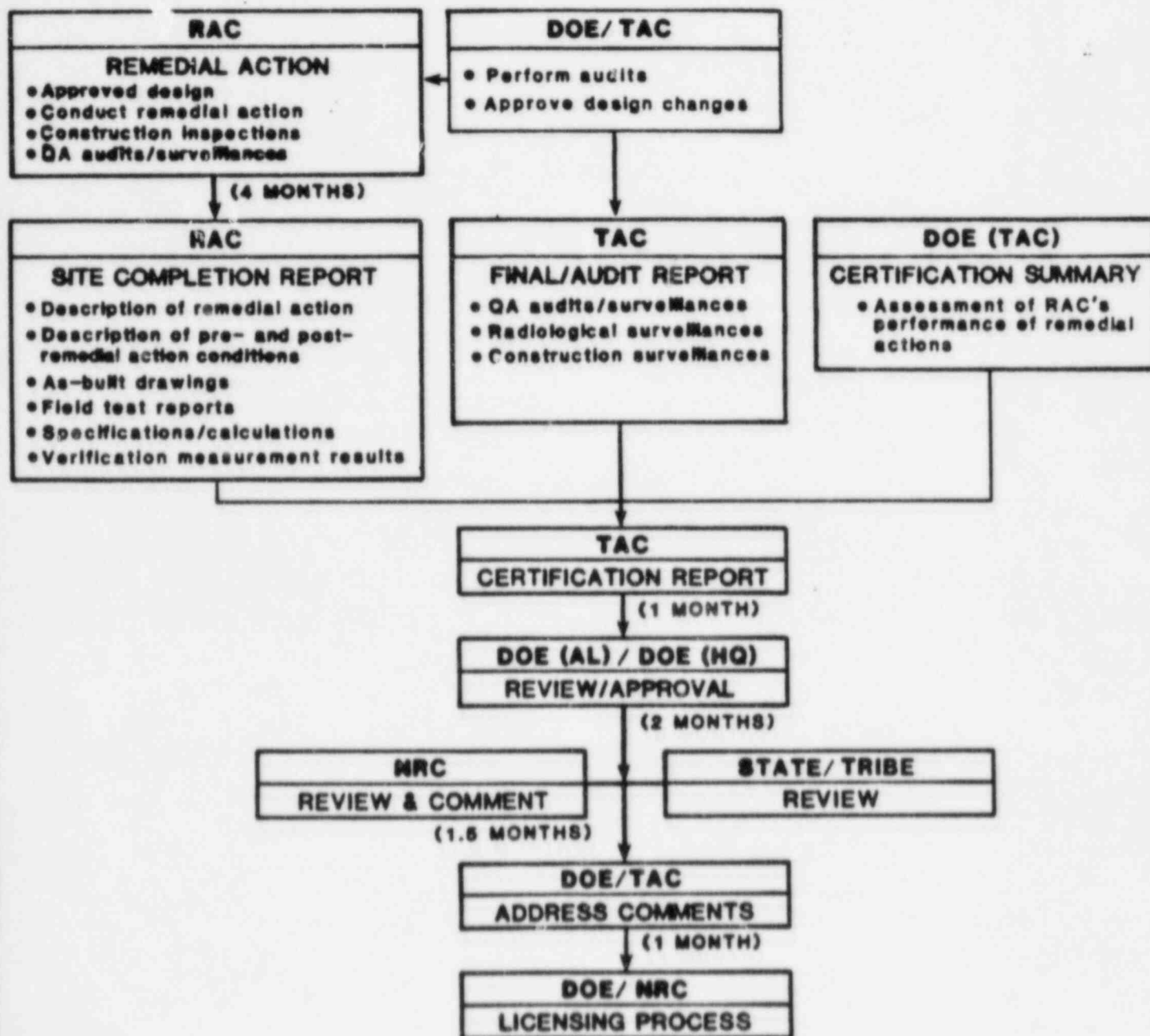
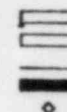


FIGURE 1
CERTIFICATION PROCESS: ACTIVITIES & RESPONSIBILITIES
UMTRA PROJECT PROCESSING SITES

Figure 2 Remedial action/certification process

PROJECT NAME: UMTRA

REMEDIAL ACTION/CERTIFICATION PROCESS

PAGE 1
RUN DATE 04MAY85LEGEND
EARLIEST START
EARLIEST FINISH
LATEST FINISH
DURATION PROGRESS
MILESTONE

Calendar Year

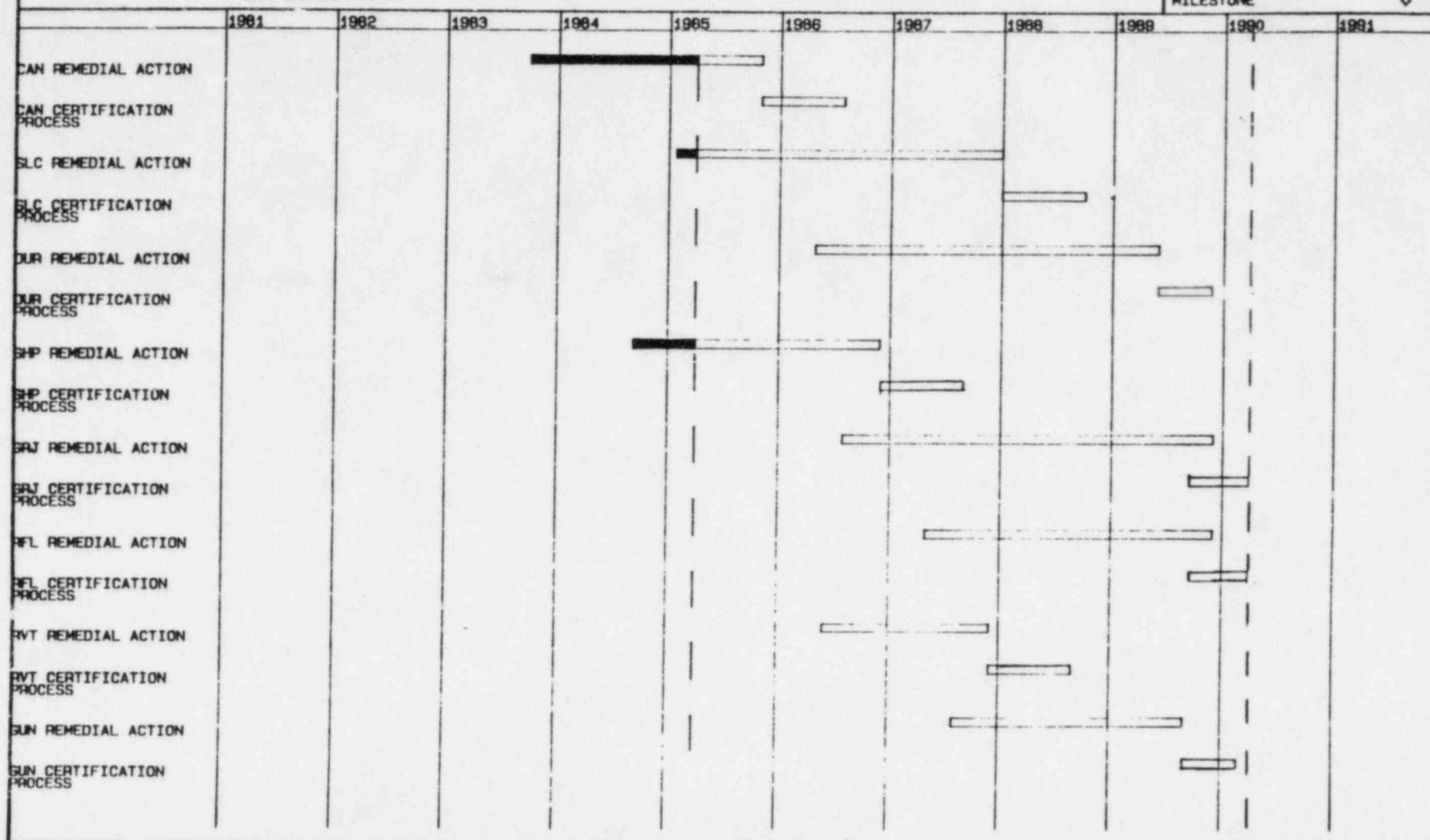


Figure 2 Remedial action/certification process
(Continued)

REMEDIAL ACTION/CERTIFICATION PROCESS

LEGEND

EARLIEST START	
EARLIEST FINISH	
LATEST FINISH	
DURATION	PROGRESS
MILESTONE	

Calendar Year

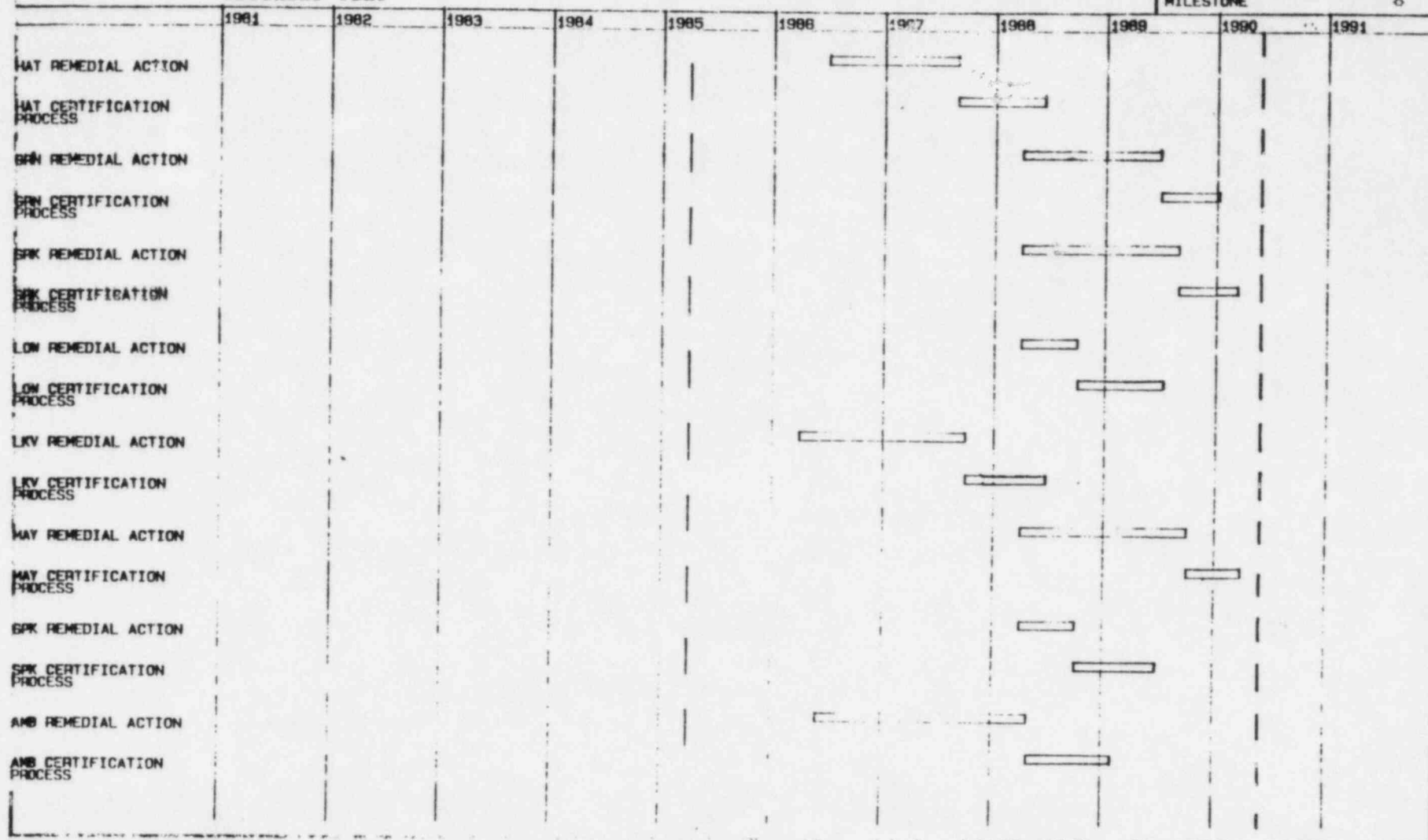


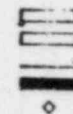
Figure 2 Remedial action/certification process
(Concluded)

PROJECT NAME: UMTRA

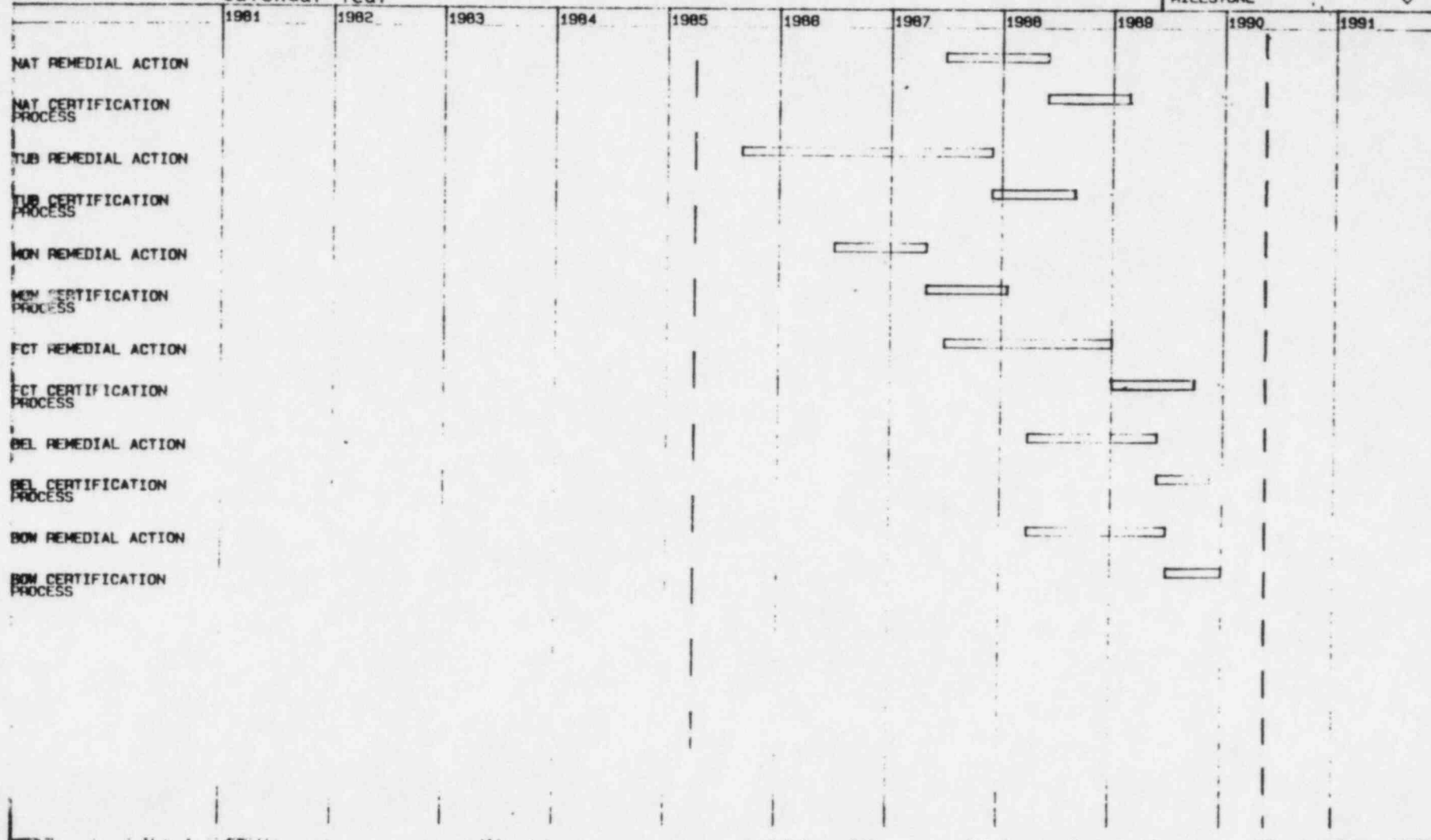
REMEDIAL ACTION/CERTIFICATION PROCESS

PAGE 3
RUN DATE 04MAY85

LEGEND
EARLIEST START
EARLIEST FINISH
LATEST FINISH
DURATION PROGRESS
MILESTONE



Calendar Year



APPENDIX 1

DOE CERTIFICATION STATEMENT

Statement of Certification (Reference Appendix when appropriate)

(To be provided by DOE-AL Office of Chief Counsel)

Appendix

(Site specific)

Concurrence Signatures:

DOE

NRC

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE

- I. EXECUTIVE SUMMARY
- II. DESIGN ASSESSMENT
- III. REMEDIAL ACTION ASSESSMENT
- IV. CERTIFICATION BASES

APPENDICES

- Appendix A, Design criteria
- Appendix B, Technical specifications
- Appendix C, Design calculations
- Appendix D, As built drawings
- Appendix E, Field test reports
- Appendix F, Verification measurements
- Appendix G, Permits, Titles and Statement of Compliance (check RAP)
- Appendix H, Pre-remedial action site conditions
- Appendix I, Post-remedial action site conditions
- Appendix J, Audits and surveillances

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE

I. EXECUTIVE SUMMARY

II. DESIGN ASSESSMENT SUMMARY

1. Brief description of design process
 - a. Criteria evaluation
 - b. Design bases
 - c. Preliminary design
 - d. Final design
 - e. As built (with changes)
2. List of criteria approved by DOE/State/NRC.
3. List of design bases established by the design agency.
4. Comparison of specific design criteria features to design bases features.
5. Assessment of ability of design features to satisfy the criteria requirements.
6. Changes in design which were made during construction and which affect the previously approved criteria.

III. REMEDIAL ACTION ASSESSMENT

1. Summarize "as found condition"
 - a. Site photos, pre-remedial action
 - b. Actual radiation and extent of tailings found
 - c. Actual quantities of materials found
 - d. Hydrologic, geologic conditions found
2. Describe requirements to be met and methods used to perform remedial action
 - a. Methods used for clean-up verification
 - o Describe method used for verification (OCS, Delta, etc.)
 - o Average values before and after remedial action for specific areas.
 - o Photos of monitoring techniques.
3. Describe types of geophysical testing performed

State the results which are required and the average of the results obtained for the different materials.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE

4. Describe any deviations from the RAP

Example: Deletion of Bentonite with a summary of the rationale.

5. Summarize the completed condition

- a. Physical condition (fence in place)
- b. Radon levels
- c. Observation well readings, level, recharge and chemical constituents.
- d. Photos of the completed site
- e. Radium in soil at all levels (surface to bottom).

IV. CERTIFICATION BASES

To include RAC statement of recommendation for certification and summary of radiological and geophysical evidence on which recommendation for certification (from RAC's point of view) is made.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX A
DESIGN CRITERIA

List specific criteria requiring DOE and NRC approval before revision.

Examples:

1. SIP vs. relocation
2. Liner or no liner permeabilities
3. Design basis phenomenon (i.e., MPF, MPP, DBE, etc.)
4. Flood plane encroachment (as related to location of cell)
5. Esthetics (i.e., rock cover vs. topsoil and grass)
6. Protection for aquifer or from aquifer permanence (i.e., slurry walls, monitoring wells)
7. Cleanup of aquifer required or not
8. Access roads for maintenance/surveillance required or not
9. Fencing required or not
10. Cover or no cover and permeabilities
11. Rock cover or no rock cover
12. End use requirements
13. Erosion protection
14. 200 to 1,000 year criteria (EPA Standards reiterated)
15. Amount and/or levels of tailings material that can be left outside encapsulation cell or pile.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX B
TECHNICAL SPECIFICATIONS

A complete set of construction specifications used, and any approval changes to specifications and why the change was approved.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX C
DESIGN CALCULATIONS

A complete set of checked and approved calculations for all aspects of the design and calculation for any changes that were approved during construction.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX D
AS BUILT DRAWINGS

As built drawings shall consist of a complete set of construction drawings modified to reflect all changes that took place during construction. Additionally, there should be a final report stating the reasons as to why any changes were approved. This report should also identify any difficulties that occurred during construction.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX E
FIELD TEST REPORTS

Field tests will be performed as per the DOE/NRC approved site specific Remedial Action Inspection Plan. Examples of tests that may be included in the Inspection Plan are:

1. Field Density Tests
2. Gradation Testing
3. Soil Classification Tests
4. Inspections per Plan
 - a) Excavation
 - b) Embankment fill and backfill
 - c) Radon Barrier
 - d) Rip rap

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX F
VERIFICATION MEASUREMENTS

1. METHODS

A Discussion of methods will be presented, including a copy of RAC procedure utilized during verification measurements. A discussion of the RAP performance criteria for the method chosen for verification will also be included. Other data such as the calibration curves used during verification identifying the sample numbers associated with each curve will also be presented.

2. QUALITY CONTROL OF RADIOLOGICAL METHODS

The RAC analytical quality control program will be discussed. This will include a graph of predicted and QC sample results for RA-226 in soil. A brief discussion of the analytical vendors quality control program (EPA certification program participation) will also be included.

3. RESULT RECORDS

A list of soil verification measurement results will be presented. Radium in soil sample results will include grid location and radium concentration in soil. Also included will be any split sample results from RAC third party QA program including thorium results. Actual record of borrow pit materials results will be included.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX G
PERMITS

Permits necessary for regulatory compliance will be identified. Documentation will be provided supporting permit issuance and compliance.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX H
PRE-REMEDIAL ACTION SITE CONDITIONS

A general discussion of the pre-operational existing conditions as measured under the RAC radiological programs and/or construction inspections.

1. RADIOLOGICAL SURVEYS

- a. Gamma - pre-operational data.
- b. Radon - pre-operational data.
- c. Radium concentrations in soil - data.
- d. Ground and surface water - pre-operational data.
- e. Air particulate - pre-operational data.

2. CONSTRUCTION CONDITIONS

Will include site photographs and drawings.

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX I
POST-REMEDIAL ACTION SITE CONDITIONS

1. RADIOLOGICAL SURVEYS

- a. Gamma - post-operational data.
- b. Radon - post-operational RGM data for a period of at least one month after remedial action activities are completed.
- c. Radium concentrations in soil (pCi/g) - surface and subsurface samples.
- d. Ground and surface water concentrations - in designated wells and surface water sampling locations which were previously utilized during construction activities. Results will represent the post operational suite of samples.
- e. Air particulate concentration results - at least one month of post operational monitoring as indicated in the RAC Health Physics Monitoring Plan (HPMP).

APPENDIX 2
RAC SITE COMPLETION REPORT SUMMARY OUTLINE - APPENDICES

APPENDIX J
RAC AUDITS AND SURVEILLANCE

1. RADIOLOGICAL AND CONSTRUCTION

Summary assessment
Responses
Closeout documentation

2. QUALITY ASSURANCE

Summary assessment
Responses
Closeout documentation