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SUBJECT: Forwards semiannual rept for "Plan for Integrated Scheduling of Plant Mods for DAEC." Rept summarizes progress in implementing Schedule A & B items,identifies changes since last rept & provides updated schedules.

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MA-4

Iowa Electric Light and Power Company
May 4, 1992
NG-92-1868

JOHN F. FRANZ, JR.
VICE PRESIDENT, NUCLEAR

Dr. Thomas E. Murley
Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Station P1-37
Attention: Document Control Desk
Washington, D. C. 20555

Subject: Duane Arnold Energy Center
Docket No.: 50-331
Op. License No.: DPR-49
Semiannual Report for the "Plan for the Integrated Scheduling of Plant Modifications for the Duane Arnold Energy Center"
Reference: D. Mineck letter to T. Murley dated November 4, 1991, NG-91-3266
File: A-278

Dear Dr. Murley:

This letter and attachments provide the semiannual report required by Section V. A. of the "Plan for the Integrated Scheduling of Plant Modifications for the Duane Arnold Energy Center" (the Integrated Plan). This report summarizes our progress in implementing Schedule A and B items, identifies the changes since the last report, summarizes the reasons for schedule changes, and provides updated schedules.

Attachment 1 is a summary of progress in implementing the items listed in Schedules A and B. It lists the items which have been completed since the last update (Reference). References to NRC correspondence which describe the completion of these activities are included when available.

Attachment 2 identifies the changes since the last report. These revisions include changes to item descriptions, revision of schedule commitment dates, and the addition of Schedule B items. Attachment 3 identifies items that have been deleted since our last report. Explanations for each of these changes are included in the corresponding attachments.

Updated Schedules A and B are included as Attachment 4. Item numbers have been added for each scheduled item to facilitate reference to specific plan issues and dates. For each item listed, the specific implementation date is stated and reference is made to the NRC correspondence supporting this date. When available, references to NRC correspondence are cited for IELP-initiated items listed in Schedule B. Also, brief descriptions of those Schedule B items, which are not specifically described in other correspondence, are included as Attachment 5.

Please inform us if you have any questions or comments concerning this submittal.

Very truly yours,

John F. Franz, Jr.
Vice President, Nuclear

JFF/PMB/pjv*

Attachments:
1. Summary of Progress in Implementing Schedule A and B Items
2. Revisions to the Integrated Plan Schedule
3. Deletion of Scheduled Items
4. Updated Schedules A and B
5. Descriptions of Selected Schedule B Items

cc: P. Bessette
L. Liu
L. Root
R. McGaughy
C. Shiraki (NRC-NRR)
A. Bert Davis (Region III)
NRC Resident Office

# Summary of Progress in Implementing Schedule A and B Items

The following items, as listed on the Schedules A and B transmitted with the November 4, 1991, Semi-annual Report, have been completed during this reporting period.

## Schedule A

There were no Schedule A items due or completed during the reporting period.

## Schedule B

- Station Blackout Rule Compliance

  RCIC Turbine Insulation

  Control Room Lighting Improvements

- Emergency Response Capabilities (Supplement 1 to NUREG 0737)

  Detailed (Supplement 1) CRDR - Phase 4 Long Term Enhancements (NG-92-1938)

- Regulatory Guide 1.97

  Control Room Labeling

- Inservice Testing Program Modifications

  Phase 2: Diesel Generator Air Operated Solenoid Valve Replacement

- Control Room Habitability ($CO_2$ Intrusion) (LER 92-004, NG-92-2091)

- Additional 161 kv Service Breaker

- Power Systems Analysis

  Basic Model Development

- Technical Specification Improvements

  Short Term Enhancements - Phase 2

- Replace 2 Electro Hydraulic Control (EHC) Pumps

- Configuration Management Plan

  Digital Imaging Phase 1: Establishment of Operational Drawings on DI Platform

- Scram Frequency Reduction

  Mechanical Feedwater Modifications

- Computer Software Quality Assurance

  Phase 1: Development of Guidance Document

- Facility Upgrade Study

- Shutdown Risk Management

  Phase 1: DAEC Outage Risk Management Guidelines

# REVISIONS TO THE INTEGRATED PLAN SCHEDULE

| Item No. | Description of Change | Explanation |
|---|---|---|
| B6 | A new schedule B, NRC Item, "Variable Table Update", has been added to the RG 1.97 heading. | Iowa Electric committed to provide the Staff with an update to the RG 1.97 variable table originally submitted as part of our RG 1.97 program in 1985. This table update is scheduled to be submitted by June 30, 1992 (NG-92-0084). |
| B13 | The schedule for completion of Core Stability Studies (BN 88-07) has been revised from 12/31/92 to 04/30/93. | The schedule has been revised to reflect delays in issuance of the BWR Owners' Group Plant Licensing Topical Report, which is dependent upon resolution of generic concerns with the NRC. |
| B14 | The reference to Supplement 4 to Individual Plant Examination of External Events (IPEEE) Generic Letter 88-20 has been deleted. | Iowa Electric's response to Supplement 4 to GL 88-20 was submitted on 12/23/91 (NG-91-4093). As noted in that letter, schedules and milestones for IPEEE are dependent upon completion of the Individual Plant Examination (IPE) for the DAEC-Scheduled for August, 1992. Consequently, schedules and milestones for the IPEEE will be included in the next semi-annual update to the Integrated Plan. |
| B27 | The scheduled completion date for one of the proposed changes to the Technical Specifications, RTS-249, under the schedule B item, "Technical Specification Improvements - Long Term Enhancements" has been revised from 6/30/92 to 8/31/92. | The schedule for this interim milestone has been revised to reflect delays in the preparation of this Technical Specification change which occurred as a result of the recent refueling outage. The scheduled completion date for "Technical Specification Improvements - Long Term Enhancements", 12/31/92, remains unchanged. |

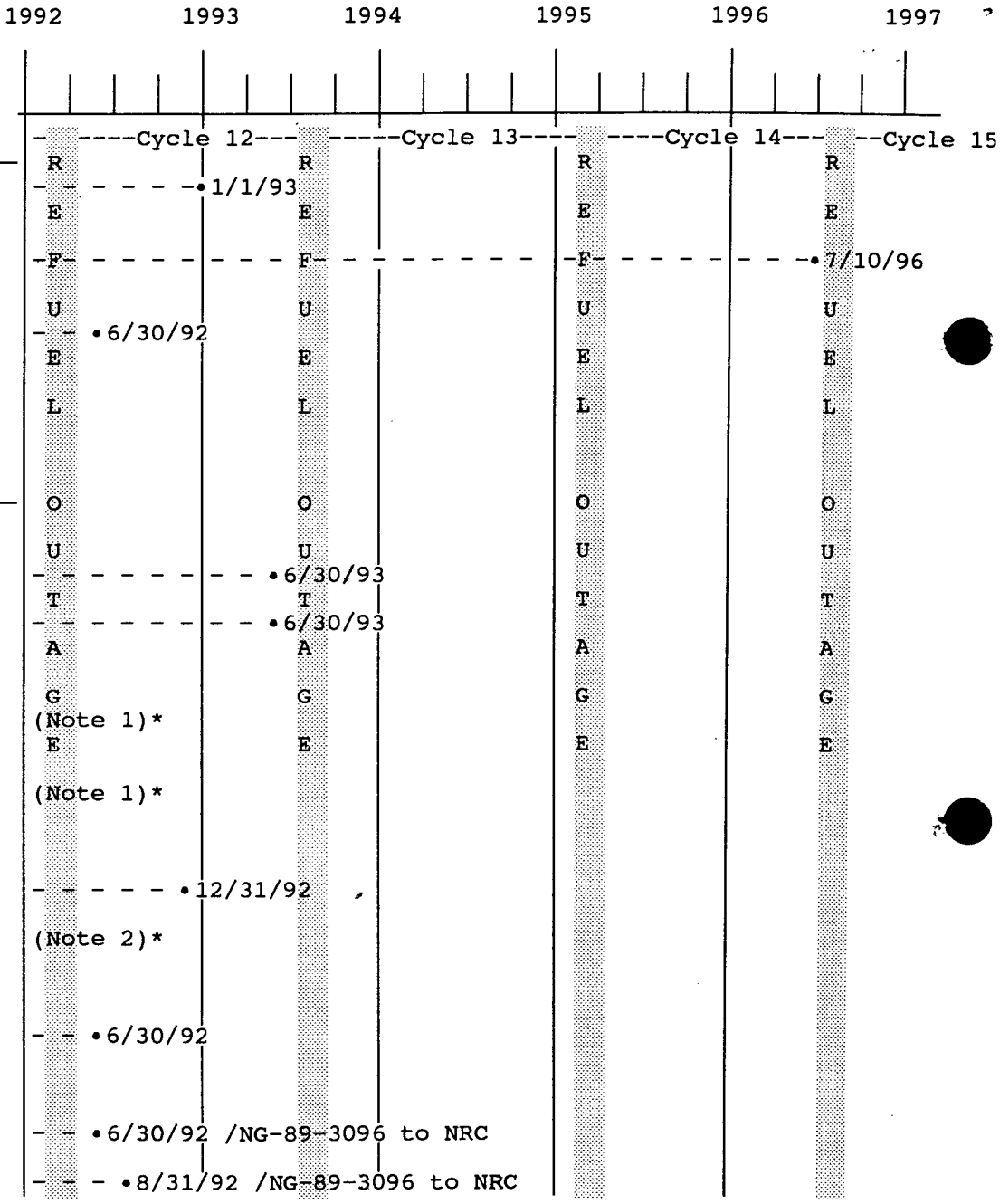
| | | |
|---|---|---|
| B32 | The scheduled completion date for the schedule B item, "Digital Imaging - Phase 2: Establishment of Balance of Plant Drawings on DI Platform", has been revised from 9/30/92 to 10/31/92. | The schedule has been revised to more accurately reflect the time and work necessary to input the remaining drawings onto the digital imaging platform. The revised date is based on experience gained with Phase 1 of this program. |
| B40/ B41 | The project description for the schedule B item, "Long Term Commitment Tracking Program," has been revised. | We are considering adding the development of the DAEC Current Licensing Basis (CLB) to this project and have therefore deferred the development of hardware and software specifications from Phase 1 to Phase 2. |
| B42 | A new schedule B, IELP Initiative Item, "Vessel Level Instrumentation Modifications" has been added. | As described in LER 92-001 (DAEC-92-0068), modifications to certain reactor vessel high level instrumentation to account for high drywell temperatures have been scheduled for completion prior to startup from the Cycle 12/13 refueling outage. |

Deletions from the Integrated Plan Schedule

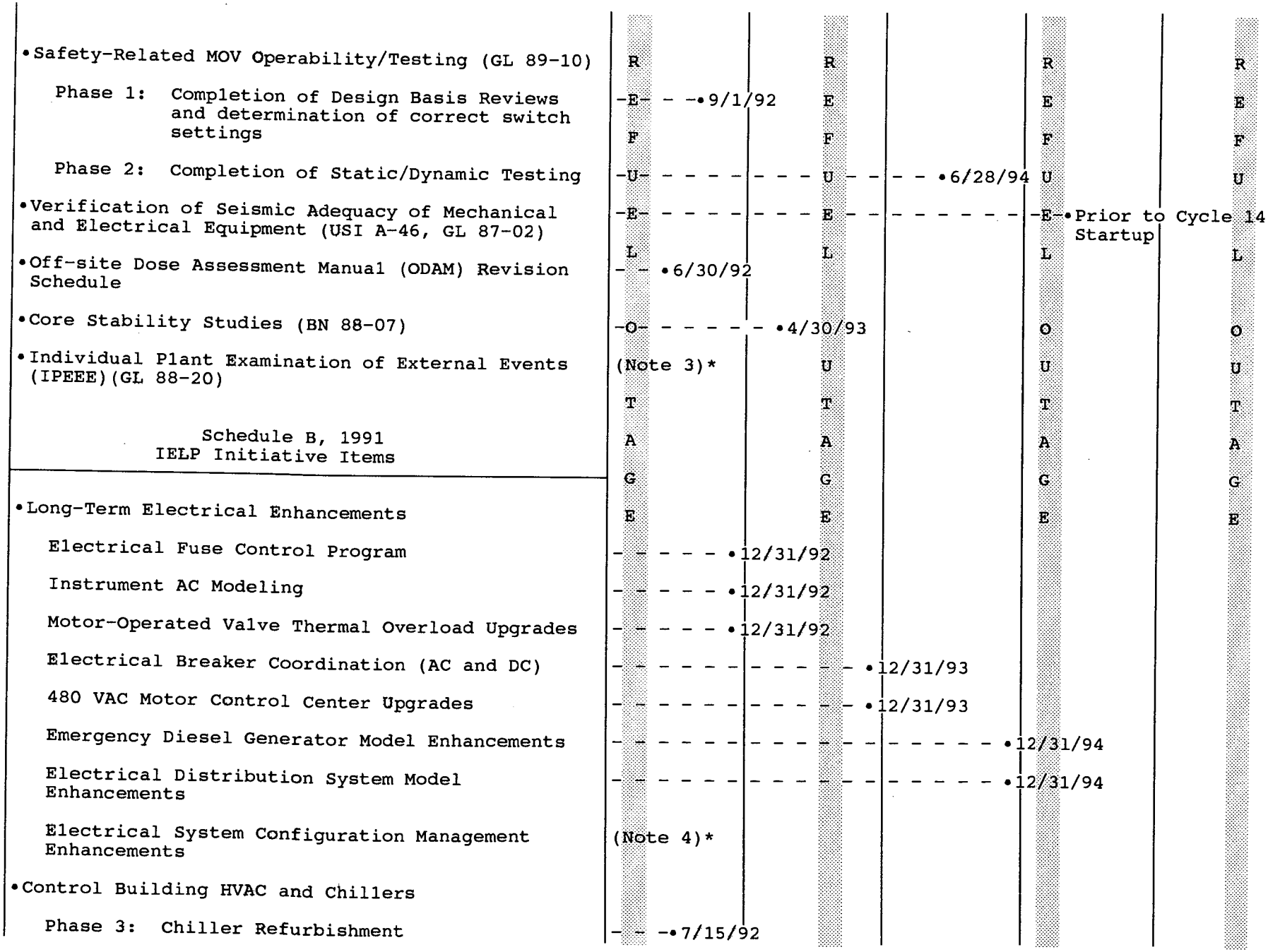
| Previous Item Description | Explanation |
|---|---|
| • Hydrogen Water Chemistry Oxygen/Hydrogen Generator | Due to the substantial expense, Iowa Electric no longer plans to pursue the installation of an on-site hydrogen/oxygen generator. |
| • Metrology Lab | Currently there are no plans to implement this project. Further review of this project is required before it will be considered as a project to be actually pursued. |
| • Maintenance Self-Assessment | The scope and scheduled start dates for the comprehensive maintenance assessments using INPO 90-008 are being deferred pending the results of the NUMARC Maintenance Working Group activities. Therefore, this item is being deleted at this time. |

# INTEGRATED PLAN SCHEDULE

| Item Number | Schedule A, 1991 |
|---|---|
| A1 | •Revision to DAEC Radiation Protection Program to reflect new 10 CFR 20 Requirements |
| A2 | •Revision to DAEC Maintenance Program to reflect new Maintenance Rule (10 CFR 50.56) |
| A3 | •Emergency Response Data System (ERDS) (10 CFR 50, Appendix E) |
| | **Schedule B, 1991 NRC Items** |
| | •Security System Upgrades |
| B1 | Security Computer System Upgrade |
| B2 | Access Control Upgrade |
| | •Station Blackout Rule Compliance |
| B3 | Schedule Submittal required by 10 CFR 50.63(c) |
| B4 | Procedure Changes |
| | •Containment Performance Improvements |
| B5 | Hardened Wetwell Vent (GL 89-16) |
| | Other Containment Performance Improvements |
| | •Regulatory Guide 1.97 |
| B6 | Variable Table Update |
| | •Individual Plant Examination |
| B7 | Containment Performance Analysis |
| B8 | Report Submittal |



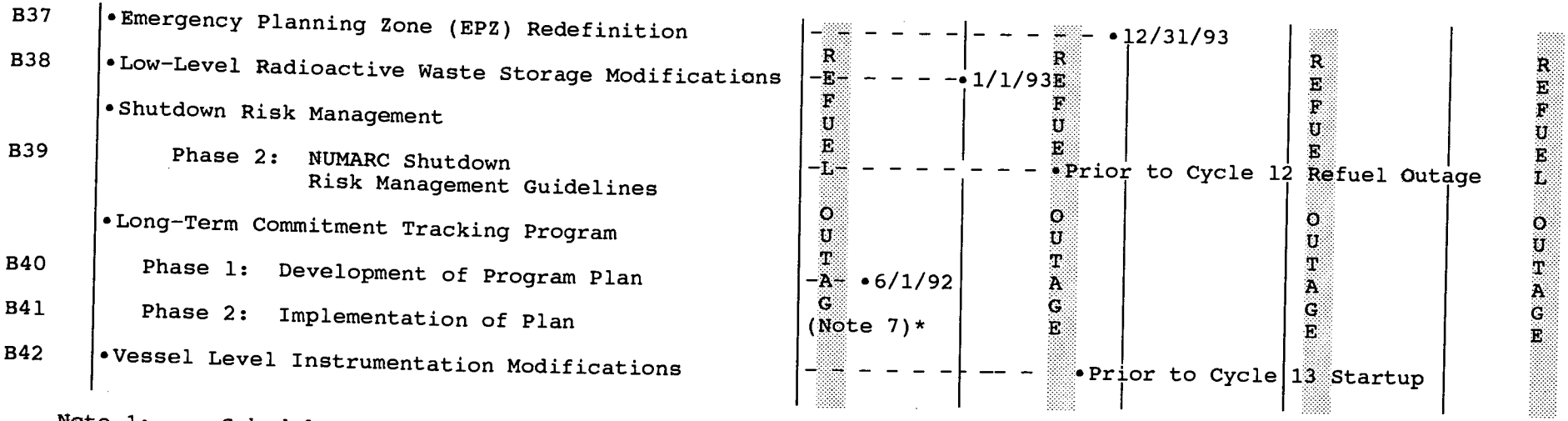
# INTEGRATED PLAN SCHEDULE



# INTEGRATED PLAN SCHEDULE

| | | |
|---|---|---|
| | • Design Basis Program | |
| B24 | Phase 1 - ECCS and Selected Safety-Related Systems | • 9/30/93 |
| B25 | • Plant Life Extension | (Note 4)* |
| B26 | • Severe Accident Management | (Note 5)* |
| | • Technical Specifications Improvement | |
| B27 | Long-term Enhancements | • 12/31/92 |
| | • Ultrasonic Examination of Reactor Vessel Beltline Region Welds | |
| B28 | Phase 3: Vessel Weld Examination | • Prior to Cycle 14 Startup |
| B29 | • Telemetry for Emergency Sirens | • 12/31/93 |
| | • Comprehensive Procurement Initiative | |
| B30 | Implementation | • 7/1/92 |
| | • Service Water System Enhancements | |
| B31 | River Water Supply Pumps | • 12/31/93 |
| | • Configuration Management Plan/Digital Imaging (DI) | |
| B32 | Phase 2: Establishment of Balance of Plant Drawings on DI Platform | • 10/31/92 |
| | • Scram Frequency Reduction | |
| B33 | Turbine Electro-Hydraulic Control (EHC) System | • Prior to Cycle 14 |
| | • Long-term Instrument & Control Strategy | |
| B34 | Instrument Setpoint Program | • 12/31/93 |
| | • Computer Software Quality Assurance | |
| B35 | Phase 2: Development of Departmental Procedures | • 12/31/92 |
| B36 | Phase 3: Software Retrofits | (Note 6)* |

# INTEGRATED PLAN SCHEDULE




Note 1: Schedule not yet certain. Schedule due within 30 days of the notification provided in accordance with 10 CFR 50.63(c).

Note 2: Schedule not yet certain. Potential improvements to be evaluated during Individual Plant Evaluation as requested in Generic Letter 89-16.

Note 3: Schedule to be submitted to NRC via Integrated Plan Submittal in November, 1992 (NG-91-4093)

Note 4: Schedule not yet certain. Potential IELP initiative item.

Note 5: Schedule not yet certain. Awaiting promulgation of NRC requirements/guidance.

Note 6: Schedule not yet certain. Schedules dependent upon Phase 2 details.

Note 7: Schedule not yet certain. Schedules dependent upon Phase 1 details.

# Description of Selected Schedule A and B Items

## Schedule A

- Emergency Response Data System (10 CFR 50, Appendix E) (A3)

  The Emergency Response Data System (ERDS) is being established to provide data from the DAEC to the NRC through a link permitting direct, real-time transfer of data from the DAEC plant computers to the NRC Operations Center. The system will be designed to be activated at the plant during an emergency which has been classified at an ALERT or higher level. The NRC portion of ERDS will receive, sort and file the data. The users will include the NRC Operations Center, the NRC Region III Office, and, if requested, the State of Iowa. The existing Emergency Notification System will be used to supplement ERDS data.

## Schedule B

I. NRC Items

- Security System Upgrades

  Security Computer System and Access Control Update (B1, B2)

  The Physical Security Computer System (PSCS) project consists of upgrading the main security computer hardware, the Central Alarm Station/Secondary Alarm Station (CAS/SAS) operator's consoles, access control, and the Video Switching Sub-system (VSS). The major functions provided by the PSCS will be access control, alarm monitoring and annunciation, security record storage and report generation, security material issue control, and simulator/training.

  The PSCS will be a real time, database management system utilizing distributed intelligent processing at both multiplexers and remote control panels.

  A new video switching and control system will be provided and will interface with existing fixed and pan/tilt/zoom (PTZ) cameras. The video switching system will become a subsystem to the PSCS and will receive inputs from the host security computers. These inputs will be processed into the proper form for alarm camera/monitor call-up, Close-Circuit Television Camera (CCTV) sequencing, and provide control

outputs as required to operate camera equipment and auxiliary functions.

- Station Blackout Rule Compliance

  Procedure Changes (NG-92-0283) (B4)

  Station Blackout Procedures will be reviewed and revised to provide operators with better guidance to respond to a Station Blackout event.

- Regulatory Guide 1.97

  Variable Table Update (NG-92-0084) (B6)

  In 1985 (NG-85-2423), we provided the staff with a preliminary description of our plans to meet the requirements of RG 1.97. Included in that submittal was a table which detailed our implementation of each RG 1.97 variable including applicable categories, instrument ranges, etc. During our recent review of the RG 1.97 program, we determined that the qualification categories for certain variables require revision. A description of these revisions and an update to the variable table originally submitted will be forwarded to the staff by June 30, 1992. As part of this effort, we will also review the basis for our decisions regarding Category A variables and inform the staff of the results of that review.

- Safety-Related MOV Operability/Testing (GL 89-10)

  This program provides for the testing, inspection and maintenance of MOVs as defined in GL 89-10 (and supplements thereto) to ensure they will function when subjected to conditions that are to be considered during both normal operation and abnormal events within the design basis of the plant.

  Phase 1: Completion of Design Basis Reviews and Determination of Correct Switch Settings (B9)

  This phase includes the review and documentation of the design basis for the operation of each MOV in the GL 89-10 program. The results of this analysis will then be used to establish correct switch settings that will ensure high reliability of safety-related MOVs.

Phase 2: Completion of Static/Dynamic Testing (B10)

This project involves the static and dynamic testing portion of the GL 89-10 program. Documentation and descriptions of actual test methods and justifications for the applicable methodology will be included in this phase. This testing will be performed concurrent with the development of design basis documentation.

- Off-Site Dose Assessment Manual (ODAM) Revision Schedule (B12)

  The purpose of this project is to address discrepancies and implement improvements to the ODAM that were identified in the NRC Safety Evaluation of the ODAM (reference: Letter J. Hall (NRC) to L. Liu (IELP) dated August 17, 1990).

- Core Stability Studies (BN 88-07) (B13)

  We are pursuing a plant-specific study on core thermal-hydraulic stability in conjunction with two other BWRs of comparable core size. The purpose of this study is to demonstrate that, due to the relatively small size of the DAEC core, unique options are available for addressing the NRC Bulletin. Additionally, we are following developments in the BWR Owners' Group (BWROG) study of this subject.

II. IELP INITIATIVE ITEMS

The following descriptions of IELP Initiative Items are based on preliminary evaluations of project scope and content. As these projects progress in their planning and implementation, it is expected that actual project scope for some IELP-Initiative items will deviate from the project scope described herein. Minor deviations from the following project descriptions will not be considered as deviations or changes to the Integrated Plan. We will, however, continue to advise the staff of significant changes to project scope or changes in scheduled completion dates.

- Long-Term Electrical Enhancements

  Electrical Fuse Control Program (B15)

  1. Develop a fuse list drawing which will contain the controlled information (size, type, etc.) for fuses.

2. Perform initial walkdowns of panel and motor control center fuses to obtain "nameplate" data.

Instrument AC Modeling (B16)

This project involves the development of a computerized model of the Instrument AC buses to allow for electrical design evaluations including breaker coordination and load flow.

Motor-Operated Valve Thermal Overload Upgrades (B17)

This project involves the development of a thermal overload design standard, evaluation of as-built configurations, reconciliation of any identified discrepancies and implementation of improved configuration of controls in this area.

Electrical Breaker Coordination (AC and DC) (B18)

The Power Systems Analysis effort identified the need for implementing coordinated breaker schemes into the safety related 4160/480 VAC and 125/250 VDC systems. This project will implement these breaker schemes.

480 VAC Motor Control Center Upgrades (B19)

This project will upgrade selected 480 VAC motor control centers to currently available equipment. This project is necessary due to increasing difficulty in obtaining replacement parts for the existing equipment.

Emergency Diesel Generator Model Enhancements (B20)

Enhancements to the Power System's Analysis Emergency Diesel Generator transient model will involve test-loading of the diesel with specialized test equipment to allow for further model enhancements, and implementation of model changes identified during earlier model development.

Electrical Distribution System Model Enhancements (B21)

This project involves expanding the computer model to include the remaining lower-voltage AC circuits, motor overloads, and breaker and fuse coordination schemes.

Electrical System Configuration Management Enhancements (B22)

This project involves developing a new data base which combines the existing data with the electrical equipment data base developed in items 1 and 2 of the "Power Systems Analysis - Basic Model Development" project into a long-term configuration management program.

- Control Building HVAC and Chillers

  Phase 3: Chiller Refurbishment (B23)

  This project involves the rebuilding of Control Building Chiller "A". The refurbishment is being implemented to improve the chiller's reliability and to facilitate ease of maintenance functions. This includes retubing of the evaporator and condenser, installation of a new compressor and upgrading of associated electrical equipment and piping, as required. The refurbishment of the "B" chiller has been completed.

- Design Basis Program

  Phase 1 - ECCS and Selected Safety-Related Systems (B24)

  The intent of establishing a Design Basis Program is to organize and collate the design bases information with supporting design information that provides for each system, structure, or component the rationale or "whys" for their functional requirements and controlling parameters. The design bases include assumptions, numerical values, and other information used in the design of any system, structure, or component to assure that functional and regulatory goals are met. Design bases will be stated in concise terms and will focus on the specific functions or bounding parameters of each system, structure, or component. To this end, the objectives of the Design Basis Program are to assemble information concerning systems, structures, and components which are important to safety through:

  1. An organized review of functional requirements and controlling (bounding) parameters for each system, structure, or component.

2. A comprehensive list of references that support the DAEC's functional requirements and controlling (bounding) parameters.

- Plant Life Extension (B25)

  The Plant Life Extension (PLEX) project at the DAEC is aimed at extending the operating life of the plant. The project will identify those Systems, Structures and Components (SSC) susceptible to age-related degradation and develop strategies to counter those effects. The project consists of three phases: 1) Planning - development of a project plan and screening for SSC that warrant detailed life extension analyses; 2) Evaluation - detailed analyses of SSC subject to age-related degradation and implementation of aging management programs; and 3) Application - preparation of the request for renewal of the DAEC operating license.

- Severe Accident Management (B26)

  We are following industry and regulatory developments for direction in outlining a Severe Accident Management Program. We recognize that the Individual Plant Examination (IPE) will provide guidance in developing a program to manage severe accidents, i.e., those beyond the plant's design basis.

  Consequently, this program is dependant upon completion of the IPE, as well as other industry initiatives such as those being done by EPRI, NUMARC, etc.

- Technical Specifications (TS) Improvement Program

  In response to both internal and NRC-identified concerns regarding the quality of the DAEC TS, we developed a systematic program to improve the DAEC TS. The primary goals of our program are to correct identified problems, improve Operator usability (human factors) and to ensure consistency between requirements within the TS. A secondary goal of our program is to convert the format and content of the TS to match those of the standardized TS, to the extent practicable without embarking upon a wholesale re-write of the TS to the current or new draft Standard TS. This program makes use of guidance available through NRC-sponsored improvements via Generic Letters, the current Standard Technical Specifications and the draft Improved

Standard Technical Specifications, as well as industry sponsored improvements, such as BWR Owners' Group and NUMARC initiatives.

The DAEC TS Improvement Program is divided into short-term and long-term enhancement phases.

Short-Term Enhancements

The short-term enhancements phase of the DAEC Technical Specification Improvement Program consisted of preparation of Technical Specification (TS) amendment requests based upon high priority items derived from BWR Owners' Group (BWROG) Licensing Topical Reports (LTRs) and NRC TS Line-Item Improvement Generic Letters (GLs). This phase of the TS Improvement Program is complete.

Long-Term Enhancements (B27)

In addition to the inputs used for the short-term enhancement phase of the program, the long-term enhancements phase also incorporates the recommendations of an outside contractor, who provided an independent assessment of the quality of the DAEC TS. The identified changes for the Long-Term Enhancement Program are as follows.

RTS-200: Reformatting and human factors improvements to the Refueling Operations Chapter (3/4.9) to ensure consistency with Reactivity Controls Chapter 3/4.3) and to revise the core spiral reload requirements.

Scheduled Submittal Date: Complete

RTS-205 Improve the human factors of the Single Loop Operations TS.

Scheduled Submittal Date: Complete

RTS-207 Revises and reformats the Containment Systems Chapter (3/4.7) to clarify requirements on Primary Containment Integrity, Primary Containment Isolation Valves, Suppression Pool Level and Temperature, Containment Atmosphere Dilution and Oxygen Concentration. Adds Drywell temperature

limits and Secondary Containment Isolation Damper operability requirements.

Scheduled Submittal Date: Complete

RTS-249 Adds requirements for plant shutdown when found in an unanalyzed condition in TS, similar to STS 3.0.3 and adds requirements to address prohibition on plant startup with inoperable TS equipment, similar to STS 3.0.4.

Scheduled Submittal Date: 08/31/92

RTS-197 Clarifies requirements in the Reactor Coolant Systems Chapter (3/4.6), e.g., conductivity monitoring and equilibrium I-131 (E-bar). Also includes NRC GL Line Item Improvements on snubber inspections (GL 90-09) and GL 91-01 on Reactor Vessel specimen removal schedules.

Scheduled Submittal Date: 09/30/92

RTS-243 Reformats Chapter 3/4.8 on electrical systems and revises the station battery surveillances and diesel fuel oil tank level requirements to reflect new calculations.

Scheduled Submittal Date: 10/31/92

RTS-187 Revises temperature requirements on the suppression pool based upon a BWROG LTR currently under NRC review.

Scheduled Submittal Date: 11/30/92 (Pending NRC approval of LTR)

RTS-250 Adds requirements to ensure forced circulation is maintained in the reactor during plant shutdown and refuel conditions, similar to the RHR-shutdown cooling requirements in STS. This TS is dependent upon NRC and NUMARC guidelines, currently under development, on managing risk during shutdown.

Scheduled Submittal Date: 12/31/92 (Pending NRC and NUMARC guidelines)

RTS-232 Increases the allowable leakage rate limit for the Main Steamline Isolation Valves (MSIV) during the performance of 10 CFR Part 50, Appendix J testing and eliminates the requirement for the MSIV-Leakage Control System. The justification for this change has been submitted as a Licensing Topical Report by the BWR Owners' Group and is currently under review by the NRC staff.

Scheduled Submittal Date: 12/31/92 (Pending NRC approval of LTR)

RTS-X Revises the setpoints for the Reactor Protection System Electrical Protection Assemblies (EPAs) to reflect new, upgraded equipment. Also revises the surveillances on the EPAs per NRC GL 91-07.

Scheduled Submittal Date: 12/31/92

RTS-251 Simplifies the Containment Systems Chapter (3/4.7) to delete the section that duplicates the 10 CFR Part 50, Appendix J requirements and adds a specification for secondary containment damper testing.

Scheduled Submittal Date: 12/31/92

The continuation of the Long-Term Enhancement program beyond 1992 is directly dependent upon our evaluation of the NRC's Improved TS (NUREG-1344), currently under development and scheduled for issuance in mid-1992.

- Ultrasonic Examination of Reactor Vessel Beltline Region Welds (B28)

  Phase 3: Performance of Vessel Examination.

  This 10 year ISI exam of the Reactor Pressure Vessel welds will be conducted in accordance with the governing requirements and regulations required by ASME Section XI and the Proposed Rule change 10 CFR 50.55(a).

- Telemetry for Emergency Sirens (B29)

  The addition of telemetry to the Emergency Planning Public Notification System sirens will provide several benefits and

increase the level of system control. Some of the benefits are:

1. The status of the siren system can be determined at any time.

2. Activation of a particular siren can be determined.

3. Loss of AC power to a system sector can be identified.

In addition, this system will assist us to minimize or prevent problems similar to those described in NRC IN 90-34.

- Comprehensive Procurement Initiative

The purpose of this initiative is to provide a proactive and industry wide effort to enhance utility procurement programs. As defined in NUMARC 90-13 "Nuclear Procurement Program Improvements."

Assessment (Complete June 28, 1991)

Our current procurement program will be assessed against the criteria defined in NUMARC 90-13. Assessment deadline is July 1, 1991.

Implementation (B30)

Implementation of the procurement program assessment results will be completed by July 1, 1992.

- Service Water System Enhancements

River Water Supply Pumps (B31)

The purpose of this project is to procure a replacement River Water Pump to allow on-line rebuilding of the River Water Pumps.

The spare pump will allow for systematic refurbishment of the four installed pumps on an individual basis. For example: the spare pump will replace one of the installed pumps; the pump that was replaced by the spare will be refurbished; the refurbished pump will then replace the next installed pump requiring refurbishment. This sequence of events will continue until all pumps including the spare are refurbished. This method of refurbishment will minimize the time a pump is removed from service.

- Configuration Management Plan (B32)

  The purpose of this project is to design and implement a program to achieve comprehensive control of the updating and maintenance of plant documents. The number of changes in regulations, design, and procedures that occur for a nuclear plant over a period of time presents a difficult task to ensure that all affected procedures, drawings, equipment specifications and other controlled documents are updated to reflect the change. As part of this project a configuration management program plan is to be developed that will serve as a guide for document control and document change management. Digital imaging technology is being used to improve our ability to control the management of plant documents. This technology is used to provide control, access and timely revision processes for documents. Initial efforts have been focused on placing important plant drawings on this technology platform. The project has been divided into two major objectives: Program Plan and Digital Imaging. The Program Plan Phase has been completed. The Digital Imaging Phase is in progress.

- Scram Frequency Reduction

  The purpose of this project is to examine and implement improvements to lower the scram rate of our plant. In 1989, we formed a Scram Frequency Reduction group to review plant operating experience and industry reports and identify improvements in equipment, communications, procedures, and personnel training that can be made to reduce our scram rate in order to be consistent with industry goals. Examples of improvements that have been implemented are the conversion of some turbine trip logic from single incidence to coincident logic (i.e. two-out-of-three logic) and installation of solenoid failure detection for MSIVs and turbine master trip solenoids. Additionally, the following modifications are planned:

  Turbine Electro-Hydraulic Control (EHC) System Improvements (B33)

  A review of DAEC scram history (1979 - 1990) shows that over 30% of the reactor scrams have been initiated by the turbine/generator systems. The purpose of these modifications is to reduce reactor scrams due to single failure within the EHC system electronics.

- Long-Term Instrument and Control Strategy

  Instrument Setpoint Program (B34)

The purpose of this program is to reconstitute the design bases for the instrument setpoints contained in Technical Specifications, and upgrade to the extent practical to new methodology using the ISA 67.04 setpoint methodology. This effort will provide calculations that conform to the new ISA 67.04 methodology and provide the setpoint margins for applicable Technical Specification instruments. Tasks will include the formulation of detailed calculations and development of a topical design basis document detailing the setpoint methodology used at the DAEC.

- Computer Software Quality Assurance

  The purpose of this program is to ensure the quality and integrity of computer software, especially that which can impact safety-related systems, components, and structures at the DAEC. This program is being developed in three phases.

  Phase 1: This phase will develop and define a division policy statement and standards for the development, maintenance, and procurement of division software. This phase is complete.

  Phase 2: (B35) This project involves the development of departmental-level procedures to implement division-level software configuration management plans. Additionally, software which existed prior to the implementation of division policy and procedures developed in Phase 1 will be reviewed and schedules developed to retrofit the new software Quality Assurance requirements.

  Phase 3: (B36) This phase involves the application of software Quality Assurance requirements to the existing software identified in Phase 2.

- Emergency Planning Zone (EPZ) Redefinition (B37)

  The DAEC's Emergency Planning Zone is being redefined into sub-areas to provide greater assurance that adequate protective measures will be taken in the event of a radiological emergency at the DAEC. The sub-areas will be described/defined using well known geographic landmark descriptors within the 10 mile EPZ.

- Low-Level Radioactive Waste Storage Modifications (B38)

  This project implements modifications to the DAEC Low-Level Radwaste Storage and Processing facility to ensure its

capability to provide interim on-site storage of resin and dry active waste. This storage capacity will be required until a regional storage facility becomes available. Modifications will be implemented to permit stacking of resin in High Integrity Containers (HICs) in the resin storage vault and upgrade the vault crane to facilitate placement of high radiation loads into shielded areas.

- Shutdown Risk Management

  Phase 1: DAEC Outage Risk Management Guidelines

  Guidelines were developed for the Cycle 11/12 refueling outage which provide an integrated process of assessing and reducing the likelihood and/or consequences of a shutdown event. These guidelines focused on the key areas of decay heat removal, vessel inventory control, and electrical power systems. This phase is complete.

  Phase 2: NUMARC Shutdown Risk Management Guidelines (B39)

  This phase of the DAEC Shutdown Risk Management Project involves implementation of NUMARC's, "Guidelines to Enhance Safety During Shutdown." Current schedules require plants to address these guidelines prior to any 1993 refueling outage.

- Long-Term Commitment Tracking Program

  Phase 1: Development of Program Plan (B40)

  The DAEC long-term commitment tracking system will be a computerized information system designed to enhance our ability to manage on-going commitments. The system will be developed through enhancements to our existing Commitment Control System including expansion of system capacity as well as improvements in search capability. These modifications are necessary to support the addition of long term commitments and references to industry guidance documents. Phase 1 of this program will involve the development of a plan for the establishment of the DAEC Long-Term Commitment Tracking Program.

  Phase 2: Implementation of Plan (B41)

This phase of the Long-Term Commitment Tracking Program will involve activities such as researching industry good-practices, determining hardware and software needs, procuring hardware and software, and refinement of the program plan.

Included in this phase of the Long-Term Commitment Tracking Program will be data compilation and entry. This involves the assembly and input of historical and ongoing commitments and endorsements.

- Vessel Level Instrumentation Modifications (LER 92-001) (B42)

During a review of the effects of high drywell temperatures on vessel level instrumentation in January, 1992, we determined that the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) system automatic high level trips may not have functioned at high drywell temperatures. To correct for the potential loss of the HPCI and RCIC high level trips at high drywell temperatures, the setpoints on the associated instruments were reduced to ensure high level trips would occur as required. However, due to the large temperature effects on the instruments associated with the instrument lines for one condensing chamber (CC-4562), the setpoints associated with these instruments had to be reduced significantly which caused half of the RCIC and HPCI trip logic to be complete during normal plant operation. As the reduction in the setpoints was not considered to be an acceptable long-term solution, modifications to the instruments lines were planned. The proposed modifications are being implemented in two phases.

Phase 1: Modifications to instrument lines associated with CC-4562. This phase is complete.

Phase 2: Modifications to instrument lines associated with CC-4561.