MEETING SUMMARY DISTRIBUTION

APR 27 1978

Docket File
NRC PDR
Local PDR
TIC
NRR Reading
LWR #3 File
E. G. Case
R. S. Boyd
R. D. DeYoung
D. B. Vassallo
J. Stolz
K. Kniel
O. Parr
S. Varga
L. Crocker
D. Crutchfield
F. Williams
R. J. Mattson
H. Denton
D. Muller
Project Manager O.D. PARR
Attorney, ELD
M. Rushbrook
IE (3)
ACRS (16)
L. Dreher
L. Rubenstein

NRC Participants:

E. O. Porter - Region II
W. H. Lovelace - MIPC
W. J. Pike - MIPC
W. A. Regan - EP2
W. Paton - OELD
C. Woodhead - OELD

bcc: Bellefonte participants

438/439

APR 27 1978

Docket Nos.: 50-438, 50-439
Licensee: Tennessee Valley Authority
Facility: Bellefonte Nuclear Power Plant, Units 1 and 2

SUBJECT: SUMMARY OF APRIL 12-13, 1978 MEETING AND SITE VISIT

On April 12-13, 1978, we met with representatives of the licensee at the Bellefonte site to discuss the scheduling of construction and to observe the construction activities in progress. The purpose of the meeting and visit was to examine variations in estimated dates for completion of construction of the Bellefonte Nuclear Power Plant. A list of attendees is included in the enclosure.

We met with the licensee at the construction site offices on the morning of April 12 and toured the site during the afternoon. Additional discussions followed the tour and continued again in the morning of April 13. These discussions included the following topics:

1. NRC Fuel Load Forecast Model
2. Basis for Bellefonte Percentage Completion Reported in the Construction Status Report (Yellow Book)
3. Status of Engineering Design
4. Status of Procurement
5. Status of Construction
6. Status of Preoperational Testing

NRC Fuel Load Forecast Model

We discussed our development of a forecast model to estimate nuclear power plant fuel load dates. The model consists of an average curve of construction versus time and is based on the construction history of 14 different nuclear plants. Using this curve and the reported percentage completion of construction for a particular plant we can make an estimate of the time remaining until completion of construction.

OFFICE ➤						
SURNAME ➤						
DATE ➤						

Basis for Bellefonte Percentage Completion Reported in the Construction Status Report (Yellow Book)

As a result of our use of percentage completion in our fuel load forecast model, we discussed the percentage completion as reported in the March 1978 issue of the Yellow Book. Bellefonte Unit 1 was reported to be 52% complete (includes all areas common to both Units) and Unit 2 37% complete. The licensee stated the estimates of construction completion are based on manhours expended. The actual formula is manhours expended divided by the estimated total manhours. The figure for estimated total manhours is updated weekly and is based on benchmark completions. The licensee considers the percent complete figures to be a good reflection of construction progress.

Status of Engineering Design

The licensee uses a computerized information system for detailed tracking and reporting of construction progress. The system includes tracking of detailed milestones of facility design, construction, and preoperational testing.

The licensee reports that the engineering design of the Bellefonte facility was 76% complete as of March 25, 1978. Design of the NSSS is 92% complete. The civil engineering design is 82% complete with support design the major item left. The mechanical engineering design is 78% complete with analysis of principal safety systems the major item left. The electrical engineering design is 67% complete with the cable program and the instrumentation and control program the major items left.

Status of Procurement

Procurement is reported to be 75% complete. Procurement activities are based on key construction dates. The licensee has experienced difficulty in obtaining control panels, stainless steel spools, 13.8 kv boards, valves, pipe hangers, and snubbers. Most major equipment items have been delivered. The licensee is considering on-site fabrication of hangers and snubbers.

Status of Construction

The current work force at the site consists of about 3400 people, of which approximately 800 work the second and third shifts. At the present time, the construction emphasis is changing from a basic structural-civil effort to a mechanical-electrical effort.

As such, the relative mix of workers by trades is changing. The licensee does not anticipate any problems in attaining the correct mix of skills for the job. There is an on-site welding school to assure an adequate supply of qualified welders.

All craft union contracts are renegotiated annually. However, the licensee does not anticipate any delays as a result of contract negotiations.

Construction appears to be proceeding at a good pace. However, most areas are behind the original 64-month schedule for various reasons. Construction of the containment buildings is being done slightly different from most facilities; the NSSS is installed early with the containment then being constructed around the NSSS. The licensee is not sure if this will result in any time savings. Two 10-hour shifts are currently working on the containment structures. The Unit 1 containment dome is expected to be completed in September of next year.

For Unit 1, the percentage completions by area for mechanical and electrical installations are as follows:

	Mechanical	Electrical
Auxiliary Building	10%	34%
Containment Building	0%	19%
Control Building	60%	83%
Turbine Building	28%	34%

Status of Preoperational Testing

Construction personnel schedule and conduct preoperational testing with Division of Power Production involvement. The schedule for preoperational testing is tied into the construction schedule.

The licensee has begun building the operational staff for Bellefonte and expects to reach a total of 22 by the first of next year. Operational plant staffing will be tied to construction completion dates. The operational staff is expected to reach 270 by Unit 1 fuel loading. The licensee feels an adequate supply of personnel is available to build the Bellefonte operational staff.

Conclusion

As a result of our site review, we concur with the licensee that Bellefonte Unit 1 is about 52% complete and Unit 2 is about 37% complete. Based on an industry average rate of construction completion of 1.4% per month and assuming one year to complete the last 10%, we estimate Unit 1 will be ready to load fuel about July 1981 and Unit 2 July 1982. We feel these estimates are realistic and achievable. The licensee should keep us informed of any changes that may affect our estimate so that we can ensure licensing will be complete when the facility is ready to start operation.

/S/

Walter J. Pike, Section Chief
Licensing Systems Section
Internal Information Systems Branch
Office of Management and Program Analysis

Enclosures:
Attendance List

cc w/enclosure:
See next page

OFFICE	OMPA	ODR				
SURNAME	WJP	O.D. Parr				
DATE	04/27/78	4/27/78				

Tennessee Valley Authority
ATTN: Mr. N. B. Hughes
Manager of Power
830 Power Building
Chattanooga, Tennessee 37201

cc: Herbert S. Sanger, Jr., Esq.
General Counsel
Tennessee Valley Authority
400 Commerce Avenue, E11B33
Knoxville, Tennessee 37902

Mr. E. G. Beasley
Tennessee Valley Authority
400 Commerce Avenue, W9C 165
Knoxville, Tennessee 37902

Mr. D. Terrill
Licensing Engineer
Tennessee Valley Authority
303 Power Building
Chattanooga, Tennessee 37401

Mr. Dennis Renner
Babcock & Wilcox Company
P. O. Box 1260
Lynchburg, Virginia 24505

Mr. Robert B. Borsum
Babcock & Wilcox Company
Suite 420
7735 Old Georgetown Road
Bethesda, Maryland 20014

ATTENDANCE

TVA - NRC MEETING - APRIL 12, 1978

NAME	ORGANIZATION
Dennis L. Terrill	PRP - TVA
Susan Tate	PRP - TVA
Larry M. Mills	PRP Power - TVA
W. W. Aydelott	BNP - TVA
J. C. Killian	Director's Ofc. Constr. TVA
E. O. Porter	USNRC - Principal Insp. RII
R. M. Hodges	TVA - ENDES
W. H. Lovelace	NRC - MIPC
W. J. Pike	NRC - MIPC
W. A. Regan	NRC - EP2
W. Paton	NRC - Attorney
C. Woodhead	NRC - Attorney
Robert A. Pedde	TVA - OEDC
Charles A. Myers	TVA - OEDC Licensing
E. J. Fairclough	TVA - BNP Construction
J. W. Black	TVA - BNP Construction
W. Watter LaRoche	TVA - Law
J. W. Bain	TVA - Law
Dan Jividen	TVA - Div. of Const. (Knox PCS)
A. M. Qualls	TVA - PROD - Bellefonte Plt. Supt.

ATTENDANCE

TVA - NRC MEETING - APRIL 13, 1978

NAME	ORGANIZATION
D. L. Terrill	TVA PRP - Licensing
E. O. Porter	NRC - Region II
E. J. Fairclough	TVA - BNP Construction
Dan Jividen	TVA - Div. Const. (Knox)
T. F. Newton	TVA - BNP Const.
W. H. Lovelace	NRC - MIPC
W. J. Pike	NRC - MIPC
W. A. Regan	NRC - EP2
A. W. Qualls	TVA - BNP Plant Super.