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HANFORD ATOMIC PRODUCTS OPERATION - RICHLAND, WASHINGTON

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REACTOR OPERATIONS DAILY REPORT
FORM BM-5000-052 (7-64)

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July 17, 1964

REACTOR OPERATIONS DAILY REPORT
FORM BM-5000-052 (7-64)

Effective August 3, 1964, the Reactor Operations Daily Report, issued from the Production Reports and Statistics office, will be revised (page 2, attached). Now that this report is issued as a Secret-Rough Draft document, the items shown on the report form are properly identified. Concurrently, a key for this report (last issued as Document HW-66612) is no longer necessary.

The same form will be used by each of the plants for sending report information to Production Reports and Statistics each morning. The instructions shown on the following pages will serve as a guide for those preparing the report and will further explain the limited definition on the Daily Report for the report.

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By Authority of DS Lewis,
CG-PR-2, 4-11-94

By DK Hanson, 4-19-94

Div. Reval:bm Jerry Maly,
4-19-94.

J. L. K. K.

Production Reports & Statistics
Production Sub-Section
Manufacturing Section
Irradiation Processing Department

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Instructions for the Preparation of the Reactor Operations Daily Report
(Form BM-5000-052 - 7-64)

The report period is from midnight to midnight unless otherwise specified. The 24-hour clock is used for showing time. Data for the last three columns (Small, Ks and Total) will be supplied by Production Reports and Statistics.

Line

- 1 - Power level in megawatts at 0800 on the day following the report period. If the reactor is down show as "0".
- 2 - Maximum power level (shown as total heat) achieved during the day, in megawatts. If the level is held for 24 hours and exceeds the previously established maximum level, mention under "Remarks" that a new maximum power level record was established.
- 3 - Input production (shown as total heat) in megawatt days. If production for the day exceeds the maximum previously achieved, mention under "Remarks" that a new daily production record was achieved.
- 4 - Total outage hours (midnight to midnight), shown to the nearest 0.1 hour and measured from the time the rods are scrambled until first indication at start-up. Total outage time for the day should represent the summation of each individual outage after it has been calculated to the nearest 0.1 hour.
- 5 - Megawatt days, shown as a plus or minus number, indicating the variance between month-to-date input production and the month-to-date forecast. The month-to-date forecast is calculated by dividing the monthly forecast by the number of days in the month. Adjustment is made when an extended outage occurs at the K Reactors.
- 6 - Reactor inlet water temperature in degrees centigrade at 2330 hours.
- 7 - Reactor bulk outlet water temperature in degrees centigrade at 2330 hours.
- 8 - Water flow rate through the reactor in GPM divided by 1000 at 2330 hours.
- 9 - Factor limiting power level. Use one of the following abbreviations if appropriate; otherwise explain under "Remarks".

TAI - Trip-after-instability.

BO - Bulk outlet water temperature.

NE - Nonequilibrium

EAL - External administrative limit (currently applies to the AEC administrative limits at the K Reactors).

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REACTOR OPERATIONS DAILY REPORT

DATE _____

	B	C	D	DR	F	H	KE	KW	SMALL	K'S	TOTAL
1. POWER LEVEL AT 0800 FOLLOWING DAY - MW											
2. MAXIMUM POWER LEVEL - MW											
3. INPUT PRODUCTION - MWD											
4. OUTAGE HOURS											
5. INPUT PRODUCTION VARIANCE FROM FORECAST-M-T-D - MWD									LINE 5 TOTALS IN KMWD'S		
6. REACTOR INLET WATER TEMPERATURE AT 2330- C									INPUT PROD.FORECAST FOR MO.		
7. BULK OUTLET WATER TEMPERATURE AT 2330- C									TIME OPER. EFF. - MO-TO-DATE		
8. REACTOR WATER FLOW RATE AT 2330- GPM ÷ 1000									TIME OPER. EFF. - 30 DAY AVG.		
9. FACTOR LIMITING POWER LEVEL									TIME OPER. EFF. FORECAST FOR MO.		
10. DAILY ABNORMAL WATER COLLECTION - GALS.											
11. ESTIMATED DATE STARTUP TIME HOUR											

12. COMBINED REACTORS MONTH-TO-DATE	RUPTURES		WATER LEAKS		SCRAMS	RECOVERIES	SCHEDULED OUTAGES		OTHER OUTAGES	DAILY PEAK ELECT. DEMAND - MEGAWATTS
	NAT.	ENR.	TUBE	V.S.			COMPLETED	REMAINING		

REMARKS:

- IAL - Internal administrative limit. If this designation is reported, explain what the limit is and why it is being used.
- TP - Tube power. Show the numerical value of the tube power limit and explain why tube power is limiting; e.g., rupture control, tube corrosion, etc.
- G - Graphite temperature limit when further increases in helium concentration will not reduce the graphite temperature.
- 10 - Abnormal water collection, in gallons. Report a numerical quantity only when the daily collection is above 10 gallons. Otherwise show as "N" indicating a normal collection.
- 11 - Estimated start-up time (date and hour) if the reactor is down. Revised estimates should be shown as the outage proceeds if appropriate. For extended outages of a week or more, show only estimated start-up date at the time of shutdown. About two days prior to the end of the outage also show the estimated time of start-up.
- 12 - Data for this line will be added by Production Reports and Statistics and will show the combined reactor performance for the month-to-date. The exception is the last item, "Daily Peak Electrical Demand - Megawatts", which is reported by K Area.

Ruptures - The number of failed fuel elements removed from the reactors, natural metal or enriched, month-to-date.

Water Leaks - The number of water leaks corrected, tube or Van Stone, month-to-date.

Scrams - The number of reactor scrams, excluding those due to failed fuel elements and water leaks, month-to-date.

Recoveries - The number of times operation was successfully resumed following a reactor scram.

Scheduled Outages - The first number will represent the number of scheduled outages completed during the month-to-date. In this tabulation, scheduled outage work may have been completed during outages initiated by scrams, ruptures, leaks, etc. The second figure (remaining) will represent the number of scheduled outages to be completed during the remainder of the month.

Other Outages - This includes shutdowns from miscellaneous causes such as a leaking front pigtail, RTD repair, investigating high tube temperature, etc.

Daily Peak Electrical Demand - Daily peak electrical demand (megawatts), excluding K Area generation. (Reported from 165-K.)

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Data for the last three columns (Small, Ks and Total) will be supplied by Production Reports and Statistics. The numbers in lines 1, 2, 3 and 4 represent the totals for those lines on the report. The numbers for line 5 also represent the totals for that line but are shown in KMWDs (MWDs divided by 1000).

The numbers shown in the remaining spaces in the last three columns are independent of the numbers shown by the plants on the adjacent lines (6 through 11). The information in these spaces is as follows:

Input Production Forecast for the Month

These numbers represent the official input production forecast for the month and will remain unchanged during each month.

Time Operated Efficiency - Month-to-Date

These numbers show the percent of time, for the month-to-date, the reactors operated.

Time Operated Efficiency - 30-Day Average

This represents the percent of time the reactors operated during the preceding 30 days.

Time Operated Efficiency Forecast for the Month

These numbers are the official time operated efficiency forecast for the month and will remain unchanged during each month.

Remarks

The following represents the type of information that should be reported under "Remarks":

- 1 - Show the time of each shutdown or scram (time rods are scrambled), and the time of each start-up (first indication).
- 2 - Completely explain the cause of each outage. For scrams, indicate which instrument tripped the safety circuit and what caused the instrument to function. Briefly explain if recovery from a scram is not made.
- 3 - Indicate the major work completed during each outage.
- 4 - When fuel element failures are discharged, indicate the tube number, type of metal, how it was removed and production test number, if appropriate.
- 5 - If project work is done, show the project number and briefly describe the work completed.
- 6 - Indicate the total number of tubes replaced regardless of whether on a tube replacement program or as individual tubes (such as those due to ruptures and water leaks).

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- 7 - List all water leaks by tube number and indicate the type of leak: tube, Van Stone, gasket, etc.
- 8 - Mention new daily power level and production records as they are achieved.

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9/9/94

END