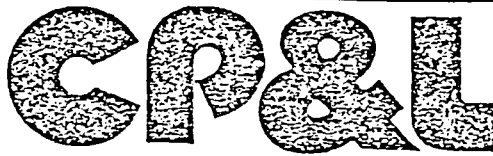


H.B. ROBINSON

ABNORMAL PROCEDURE

AOP019

8412110402 841205  
PDR ADCK 05000261  
F PDR



H. B. ROBINSON  
SEG PLANT

TITLE  
H. B. ROBINSON STEAM ELECTRIC PLANT

UNIT NO. 2

ABNORMAL PROCEDURE

SEISMIC DISTURBANCES

(AOP-019)  
A. P. 21

REVISION 2

Rev. 0

REV.	APPROVED BY	DATE	REV.	APPROVED BY	DATE	REV.	APPROVED BY	DATE
0	CHC/ms	8-12-83						

Recommend By:

J. I. Looney  
Operating Supervisor

10-30-81  
DATE

Approved By:

W. B. Harker  
Plant General Manager

10/30/81  
DATE

PAGE <u>1</u> OF <u>3</u>	TITLE Seismic Disturbances	REV. <u>0</u>	PROC. NO. <u>APP-019</u> <u>AP 21</u>
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A. SYMPTOMS

1. "Seismic" Alarm (0.01g horizontal acceleration).
2. Noticeable tremors or vibration.

B. IMMEDIATE ACTION

1. Observe plant parameters, i.e., flows, temperatures, pressures, and effects of reactivity to detect any change in conditions.
2. Notify the Operating Supervisor
3. If plant conditions remain normal, operation can continue upon approval of the Plant Manager or designated alternate until the seismic recorder film is developed and evaluated.

C. SUBSEQUENT ACTIONS

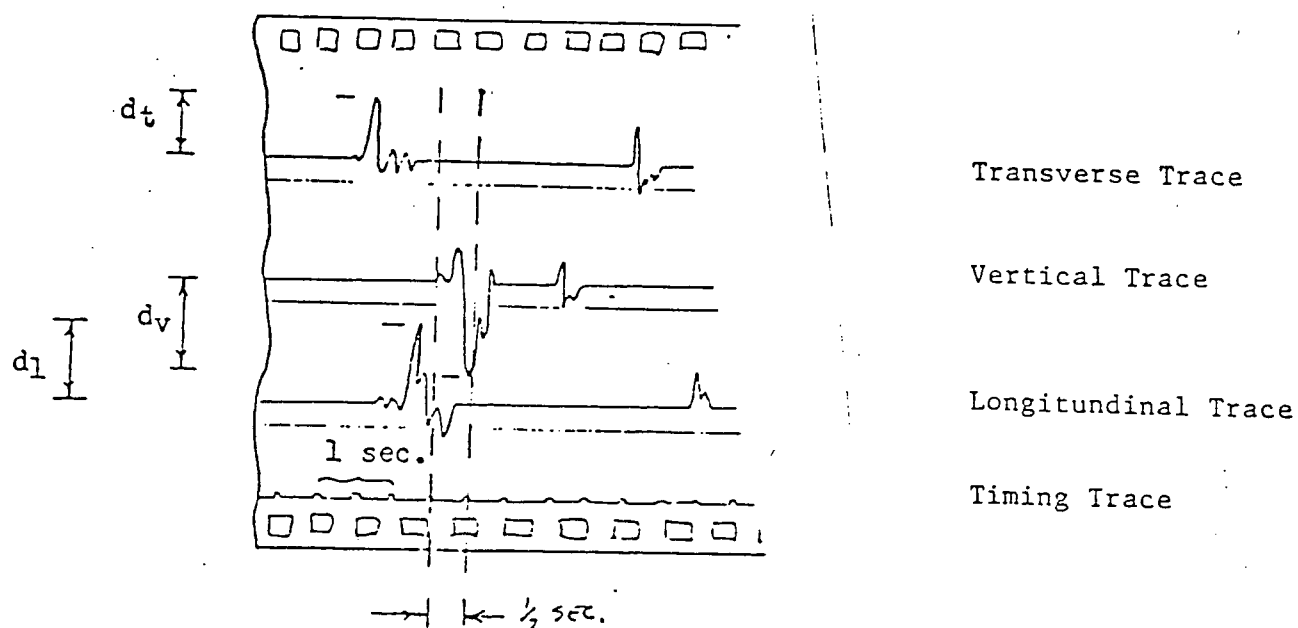
1. Check control rod operability using PT-21.2.
2. Make a walk-through inspection of the plant to detect any evidence of equipment damage using checklist CPL-AP-21A as a guide.
3. Notify I&C to remove film and develop to determine the size of the disturbance.
  - a. If indicated accelerations are less than 0.1g (horizontal) or 0.067g (vertical), and no equipment damage is discovered which will affect safe operation of the plant, operation can continue upon approval of the Plant Manager or designated alternate.
  - b. If indicated accelerations exceed 0.1g (horizontal) or 0.067g (vertical) or if equipment damage is discovered which would affect safe operation of the plant, the reactor shall be placed

PAGE	TITLE	REV.	PROC. NO.
2 OF 3	Seismic Disturbances	2	APP-019

in a hot shutdown condition. If hot shutdown Technical Specification requirements cannot be met the reactor shall be placed in a cold shutdown condition.

4. Determine the acceleration values from the processed film as follows:

a. Typical Accelerometer Film Trace:



b. Vertical Acceleration

$$\text{Vertical Accel. (g's)} = 0.263 \times d_v$$

$d_v$  = max. displacement,  
plus or minus, in  
CM, of vertical trace

c. Horizontal Acceleration:

Since the longitudinal (north-south) and transverse (east-west) accelerations are both in the horizontal plane and at right angles, the horizontal acceleration is the vector resolution of these accelerations. For conservatism, deflections on separate

PAGE <u>3</u> OF <u>3</u>	TITLE Seismic Disturbances	REV. <u>2</u>	PROC. NO. (AOP-019) AP 21
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traces occurring with 1/2 second of each other are assumed to occur simultaneously.

Inspect the film and select the 1/2 second interval on the film in which the transverse and longitudinal traces (without regard to sign (+ or -) combine for maximum deflection, i.e., each individually may not be at its maximum over the entire film but the sum of the two is a maximum. When this interval is located, measure the maximum displacement of each trace within the interval and enter in the following formula;

$$\text{Horizontal Accel. (g's)} = 0.263 \sqrt{d_t^2 + d_l^2}$$

$d_t$  = displacement, plus or minus, in CM, of transverse trace

$d_l$  = displacement, plus or minus, in CM, of longitudinal trace

5. Recovery from the required shutdown condition may be commenced when:
  - (1) Evaluation has been completed, and.
  - (2) Safe reactor operation is assured, and.
  - (3) Plant Manager or designated alternate has approved the restart.