

ATTACHMENT I

Docket No. 50-247
LER-80-006/99T-0

Consolidated Edison Co. of N. Y. Inc.
Indian Point Unit No. 2

At approximately 1454 hours on June 3, 1980, an electrical disturbance was experienced on the Con Edison system which resulted in a loss of all off-site power to the Indian Point Nuclear Facility and a shutdown of Indian Point Unit No. 2. The disturbance was attributed to a lightning strike on one of the 345 KV/138 KV transmission tower between the Buchanan sub-station and the Millwood sub-station. A report describing the effects of this occurrence on the operation of Unit No. 2 is presented below. A supplemental report relating to the off-site sequence of events leading up to the loss of off-site power is being prepared and we expect to forward this report to the Commission by June 27, 1980.

ON SITE

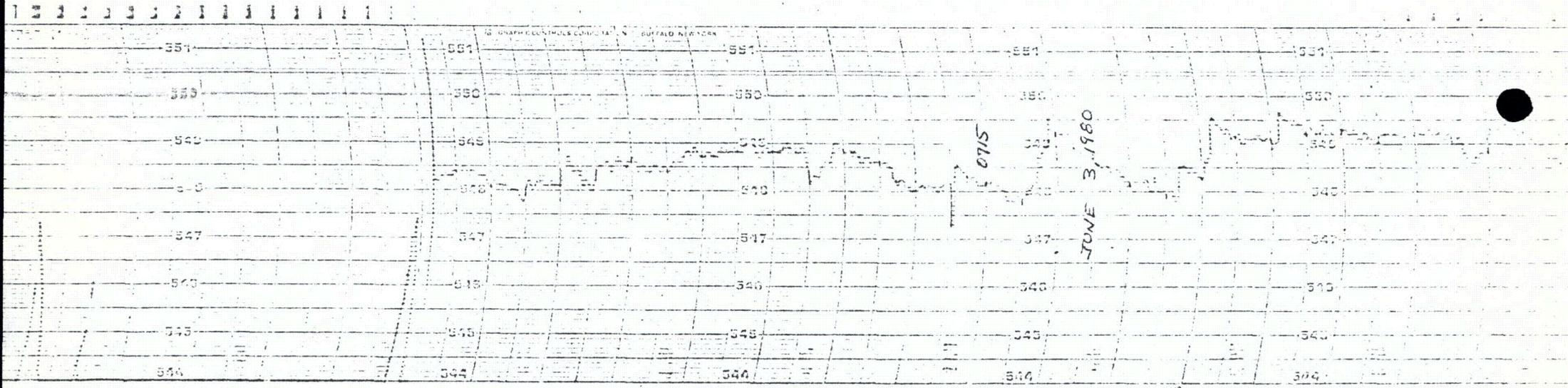
Prior to the loss of off-site power, a thunderstorm alert was put into effect by System Operations at 1410. As per normal procedures, preparations were being made to put Indian Point gas turbines 1, 2 and 3 in service. At the time of the system disturbance, GT-1 was in service, loaded at 18 MW, and GT-2 was in service, loaded at 20 MW. GT-3 had not yet been started. The subsequent loss of 138 KV supply to Buchanan sub-stations resulted in the automatic tripping of GT-1 and GT-2.

The loss of all outside power to Unit 2 de-energized 6.9 KV buses 5 and 6, and associated 480V buses 5A and 6A. By design, the emergency diesel generators started upon loss of 6.9 KV buses 5 and 6. The loss of 480V bus 5A resulted in a loss of power to the Rod Position Indication System, and a turbine runback to 70% power was initiated from the rod drop protection, resulting in an increase in T average. As a result of the turbine runback, the condenser steam dump system operated, decreasing average RCS temperature. (Ref. Attached charts 1, 2, 3). Based on these indications, the operator initiated a Plant shutdown using the manual turbine trip. This turbine tripping sequence is designed to delay the generator trip for 30 seconds, in order to dissipate crossover steam. At some time between the operator's action of manual turbine trip and the 30 second timing sequence, the Unit tripped as a result of a direct trip from Buchanan substation. The direct trip targets in the control room confirm this fact, since had the turbine trip operated the 86 P and 86 Bu lockout relays, no targets would have been found. The direct trip, therefore, opened breaker 7 in the north 345 KV ring bus at Buchanan resulting in a loss of all inside 6.9 KV buses (1,2,3,4), and loss of all four reactor coolant pumps which are powered from these buses. Upon trip of the main generator, the emergency diesel generators which had previously started, re-energized the 480 V buses and associated essential equipment. With the loss of forced cooling through the reactor coolant system, residual heat removal was accomplished via natural circulation.

Subsequent to the Unit trip, an engineering safeguards sequence was initiated via a spurious signal from the steam break protection circuitry (Steam line differential pressure). This spurious actuation resulted from unbalanced steam flow through the atmospheric steam dump system. All safeguards equipment performed normally, and after verification of the spurious nature of the signal, the safeguards equipment was shutdown and the SI signal reset.

A decision was made not to re-energize IP-2 6.9 KV buses via the gas turbines, since restoration of normal 138 KV supply was imminent. At 1640, feeders 95331 and 95332 were restored, and shortly thereafter the 6.9 KV buses were re-energized. At 1725, No. 24 reactor coolant pump was returned to service, providing forced cooling to the reactor coolant system. By 0411 the following day, all four reactor coolant pumps were in service. Throughout the natural circulation phase of this incident, fixed incore thermocouple indications, the saturation meter, and other related instrumentation were monitored, and verified that adequate core cooling existed at all times.

TAVE NARROW RANGE T-12 A



APPROX 3 P.M.

CHART 1.

APPROX 3 P.M.
JUNE 3, 1980

REACTOR POWER T-1



Chart 2.

CONDENSER
VACUUM

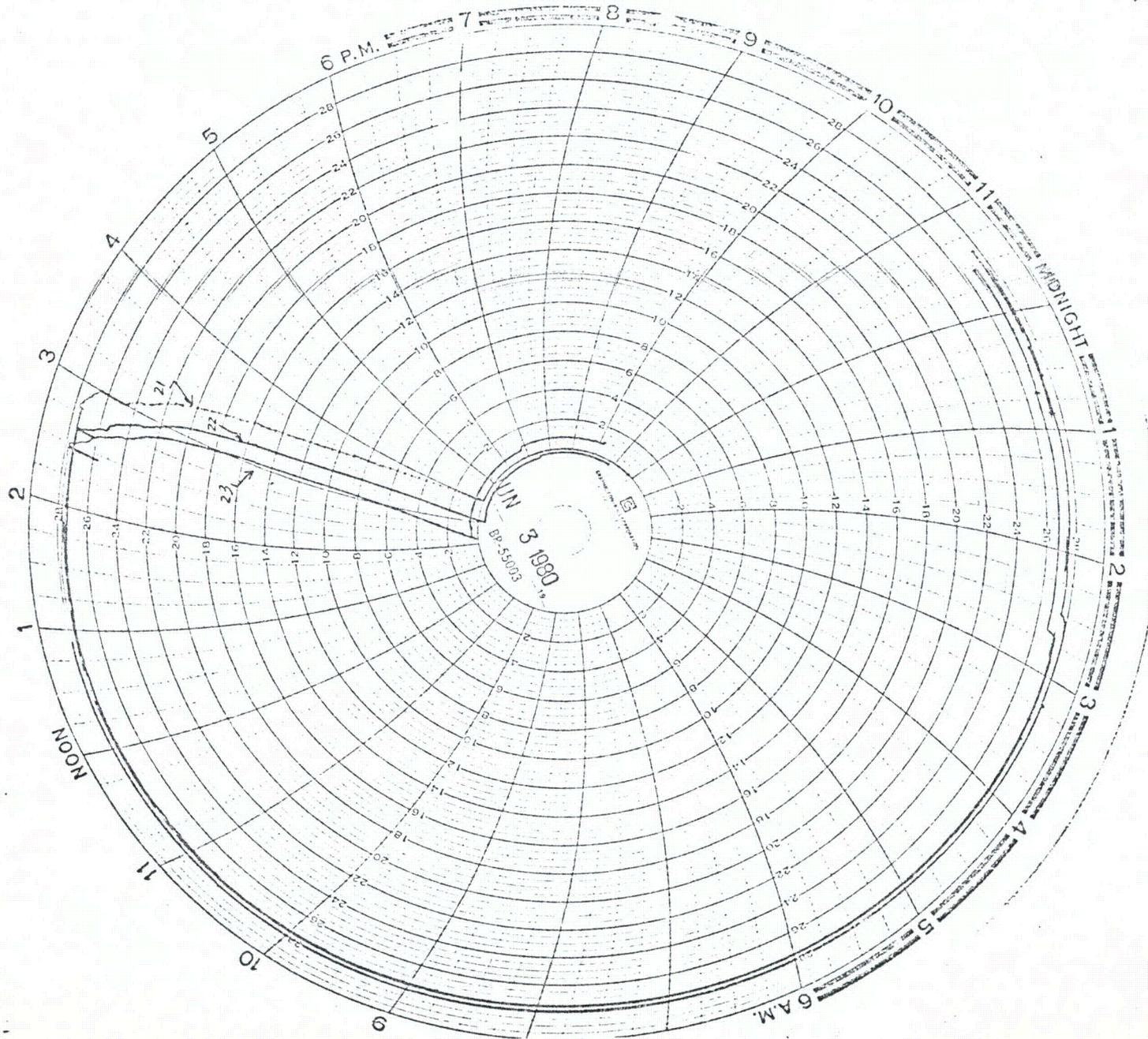


Chart 3.