NORSAR

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NORSAR PHASE 3

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O. NORSAR DATA PROCESSING CENTER (NDPC) OPERATION

Data Center

The Data Processing Center at Kjeller consists of a rented permanent building containing computer room, adjacent rooms for air conditioning, card punching, line termination, storage and six offices, and a semi-permanent prefabricated office building with 17 offices and auxiliary rooms, part of which is U.S. Government property, part of it hired.

The Operations group consists of Operations Manager, OM Assistent, Operator Supervisor and 10 operators. During the report period two operators left the project, whereas 4 new operators were hired, thus filling vacancies existing at the beginning of the period. Computer operation is based on shift work, 2 operators per shift, 5-week cycle.

Maintenance for IBM-delivered equipment, contracted with IBM Norway, continued on "minimum service" basis, i.e., nine hours a day, Monday through Friday, for standard equipment, plus "time and material" for non-standard equipment.

A somewhat more frequent failure rate of peripheral equipment (tape and disk drives, card readers) was experienced. This is ascribed to aging of equipment. A more intensive monitoring of equipment performance is initiated.

Communications

The summer of 1973 was even more critical for the communications system than previous summers. In addition

Table 01

Communications, degraded/outages.

Sub-arrays	JUL		AUG		SEP		OCT		NOV		DEC		Total Hours Degraded/Down		Per cent Degraded/Down	
	>20	>200	>20	>200	>20	>200	>20	>200	>20	>200	>20	>200	>20	>200	>20	>200
01A	6.0	9.5	9.0	10.0	18.5	70.5	17.5	122.0	7.0	11.0	10.5	6.0	68.5	229.0	1.6	5.2
01B	6.0	9.5	25.0	85.5	82.5	24.0	22.5	22.0	119.5	107.0	10.0	3.0	265.5	251.0	6.0	5.7
02B	5.0	9.5	9.0	85.5	19.5	24.0	13.5	76.5	6.5	10.5	11.0	5.5	64.5	211.5	1.5	4.8
03B	5.0	9.5	9.0	85.5	19.0	23.5	11.5	38.5	7.0	10.5	11.5	3.0	69.0	170.5	1.6	3.9
04B	5.0	9.5	6.0	105.0	19.0	23.5	12.5	40.0	6.0	28.0	8.0	3.0	56.5	209.0	1.3	4.7
05B	2.0	25.0	35.0	92.0	8.5	33.0	4.0	110.5	2.5	1.5	7.0	2.0	59.0	264.0	1.3	6.0
06B	2.0	25.0	45.0	199.0	48.7	88.0	17.0	41.0	18.5	3.0	8.5	3.0	139.5	359.0	3.2	8.0
07B	2.0	25.0	2.0	194.5	6.0	24.5	3.5	26.0	2.0	2.0	8.0	2.5	23.5	284.5	0.5	5.5
01C	1.5	26.0	2.0	8.0	6.0	58.0	3.5	41.0	2.0	3.5	6.0	1.0	21.0	137.5	0.5	3.0
02C	7.5	35.0	6.5	230.5	17.5	57.0	13.5	44.0	5.5	5.0	9.0	5.0	59.5	376.5	1.3	8.5
03C	8.0	33.0	10.5	90.5	17.5	20.0	15.5	24.5	7.5	5.0	8.0	5.0	100.0	178.0	2.3	4.0
04C	8.0	34.0	57.5	164.5	16.0	25.5	20.5	25.5	6.0	6.5	8.0	5.0	116.0	261.0	2.6	5.9
05C	8.0	34.0	10.5	35.5	17.5	72.0	15.0	33.0	6.0	6.5	8.0	5.0	65.0	186.0	1.5	4.0
06C	8.0	33.5	10.0	86.5	13.0	24.5	13.5	55.0	6.5	5.5	8.0	5.0	59.0	210.0	1.3	4.8
07C	---	---	---	18.0	168.5	0.5	0.5	15.5	---	---	4.0	---	173.0	34.0	3.9	0.8
08C	---	---	1.0	439.0	0.5	145.0	0.5	15.5	---	---	3.5	---	5.5	600.0	0.1	13.6
09C	0.5	414.5	2.0	85.5	5.0	11.0	4.5	36.0	3.5	0.5	6.0	1.0	21.5	548.5	0.5	12.4
10C	99.5	563.0	3.0	244.0	6.0	11.5	4.0	35.0	4.0	2.0	7.0	1.0	123.5	856.5	2.8	19.4
11C	1.5	21.0	7.5	85.0	7.5	11.5	4.5	22.5	4.0	2.0	5.5	1.0	30.5	143.0	0.7	3.2
12C	26.0	622.0	8.0	172.5	7.0	11.0	5.0	36.0	3.0	2.0	5.0	1.0	54.0	844.5	1.2	19.1
13C	1.5	16.0	33.0	13.5	6.0	11.0	4.0	36.0	1.0	2.0	6.0	1.0	51.5	79.5	1.2	1.8
14C	1.5	18.5	14.5	15.0	5.5	10.5	4.0	36.0	0.5	3.0	4.0	1.0	30.0	84.0	0.7	1.9

to the usual landowner activities causing local cable breakages, there were unusually frequent and heavy thunderstorms in the array area, causing a series of line group outages. Furthermore, the relocation of the NTA facilities at Lillestrøm, near Kjeller, caused outages as all equipment was moved and reconnected at the new location. One carrier system group was temporarily rerouted due to NTA investigations of irregularities on the permanent path. Table 01 summarizes outages and degraded performance of communications circuits. Subarrays are treated separately, although in many cases the outages concern groups of subarrays. Degraded performance is defined as circuits having between 20 and 200 bit errors per 16-minute intervals as recorded by the monitor printout. Circuits having more than 200 bit errors are treated as outages. It should be noted that the total hours is the sum of individual 16-minute periods when degraded or down conditions are registered. Actual error periods may be very short within a 16-minute period, but there is no way of determining the exact figure.

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