

DISASTER RECOVERY PLAN

FOR

DOMTAR CHEMICALS EDP

HP3000 SYSTEMS

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Domtar Inc. is a widely diversified Canadian-owned international corporation whose business is conducted by four operating groups: Pulp and Paper Products, Packaging, Construction Materials and Chemicals. Consolidated sales of these groups exceeded \$1.2 billion Canadian in 1978.

The Pulp and Paper Group is one of the largest integrated pulp and paper manufacturers in Canada. It produces newsprint and pulp and is the largest Canadian producer and marketer of fine and specialty papers. The Packaging Group manufactures linerboard, boxboard, corrugated shipping containers and kraft papers. The Construction Materials Group is one of the largest enterprises of its kind in Canada. Among its products are decorative and industrial laminates, particleboard, clay bricks, asphalt shingles, roll roofing and gypsum wallboard. The Chemicals Group produces salt for home, industrial and ice control uses, a wide range of tar products, lime products, treated wood and a variety of specialty chemicals.

As Supervisor of Operations for Domtar Chemicals EDP department, I am responsible for hardware and system software on two Series III's: one owned by the Chemicals EDP Group, the other by the Wood Preserving Division, which we refer to as Wood*. There is one further installation planned for mid-1980. That site is not currently considered in this plan.

Notes:

OBJECTIVES OF THE PLAN
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Protect critical data from accidental loss or destruction

Assure that there is no significant loss of information

Provide a means to resume production in an organized, timely,
cost effective manner without oversights or delay

Restore functional capability of original host in long term.

* our target is one man-day or less before resumption of all
production operations.

Notes:

OVERVIEW OF THE PLAN

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- determine critical applications to be processed
- assure that current version of critical data is available for timely transfer to another system
- assure that another system is readily available to accept data on a priority basis
- see that someone has both the knowledge & authority to coordinate the recovery
- implement long-term recovery of original host system

Notes:

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! DETERMINE CRITICAL APPLICATIONS TO BE PROCESSED !
! ----- !
! !

- ! - within Domtar as part of our annual budsetting exercise, !
! every system either proposed or in production is evaluated !
! against every other. !
- ! - this gives us a measure of the relative import of each !
! system and helps us to decide the most critical applications !
! and the impact of not processing them. !
- ! - top management gives the "stamp of approval" to the final !
! budget. !

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Notes:

ASSURE THAT CURRENT VERSION OF CRITICAL DATA IS AVAILABLE

FOR TIMELY TRANSFER TO ANOTHER SYSTEM

- DATA BASE TRANSACTION LOG
 - will be implemented with IT1918
 - will be run on tape due to
 - much higher transportability
 - secure from system problems such as head crash
 - scheduled to be re-used daily
 - becomes redundant after evening backup
- DBUNLOAD of each production data base
 - done daily
 - kept for period of one week in tape cabinet in computer room
 - chosen rather than DBSTORE
 - gives potential of DBLOAD on scheduled basis
- FULL SYSDUMPS
 - done daily after hours with limits at 1,0
 - designated by type and kept according to type
 - will be lockworded after IT1918 is installed

* Every attempt is made to see that two copies of every production file exist on tape at any given point in time to compensate for the bad tape which might be discovered on a reload, etc. The dbunload and sysdump tapes are physically stored in different locations for the same reason.

Notes:

FULL SYSDUMPS

- WEEKLY ON-SITE (4xx series)
 - dumped first working day of week
 - kept in vault for one month
- WEEKLY OFF-SITE (5xx series)
 - dumped second working day of week
 - placed in fire-resistant vault off-floor immediately
 - sent to site of alternate host next day
 - kept for one month
- DAILY ON-SITE (2xx series)
 - dated to weekly on-site sysdump
 - kept in vault for one week
- MONTHLY OFF-SITE (8xx series)
 - dumped at end of production month
 - placed in vault overnight
 - sent to remote data bank next day
 - kept for one quarter
- MONTHLY ON-SITE (6xx series)
 - dumped day after Monthly off-site
 - kept in vault for one quarter
- YEARLY OFF-SITE (8yy series)
 - dumped at end of production year
 - placed in vault overnight
 - sent to remote data bank next day
 - kept for five years

Notes:

ASSURE THAT ANOTHER SYSTEM IS READILY AVAILABLE

locate a backup site
taking into consideration:

- system requirements
- physical site
- hardware compatibility
- software compatibility
- telecommunications facilities
- other supplies
- supporting departments

Notes:

SYSTEM REQUIREMENTS

- available processing time for on-line
 - exists because production and testing are prioritized so lower priority jobs can be held back
- very high teleprocessing to batch ratio
 - only two batch programs run daily on Chemicals system for combined wall time of less than 10 minutes
- disk space
 - available due to prioritization of applications
 - lower priority applications kept on tape until loadable

Notes:

PHYSICAL SITE

- assets of both within Domtar Chemicals
- physical separation of 24 km (15 mi) between sites;
30 min by car
- office space readily available near either site

Notes:

HARDWARE COMPATIBILITY

- 1 Megabyte of memory
- 1 Mag tape drive
- 32 ports (numbered 20-35 & 40-55 for ease of use)
- 1 Printer (200 l.p.m. vs 425 l.p.m.)
- 3 discs
 - 1 x 15mb HP7905 system disc
 - (1 x 50mb HP7920 + 1 x 120mb HP7925)
vs (2 x 120mb HP7925)

Notes:

SOFTWARE COMPATIBILITY

- COBOL, FORTRAN, SPL, IMAGE/QUERY, ADAGER/3000
on both systems
- QEDIT, BASIC, SCIENTIFIC LIBRARY on Chemicals system
- KSAM, ASK/3000, TAPS on Woods system

Notes:

TELEPROCESSING FACILITIES

- have 2 Dial-up lines on Chemicals vs 3 Dial-up on Woods
- will acquire 4 x 300-baud dial-up lines on each system
 - facilitates user transfer from one system to another
- Plan to acquire 2400-baud DS3000 lines
 - will be required for third system
 - Plan remote job to copy system accounting structure to other system on planned basis each time major change is made
- looking into Packet Switching using "black box" approach
 - allow users to dynamically switch from one system to another on instructions received in critical situation

Notes:

OTHER SUPPLIES

- must still be received if Corporate EDP destroyed
 - Sifto tapes provided by Corporate EDP
- monthly Statement forms provided by user
 - user responsible to supply even in disaster
- terminals for systems & programming staff
 - requirements in supplier files
 - * not included in this paper
 - can be purchased from numerous suppliers
 - i.e. Dec VT52, LA120 & LS120, HP264X, Hazeltine 1400 & 1552, & Perkin-Elmer Owl 1200 terminals.
- furniture & office equipment
 - requirements in supplier files
 - * not included in this paper

Notes:

SUPPORTING DEPARTMENTS

- contacted every six months to reconfirm their role in supporting a recovery
- major users thru systems analysts
- Corporate EDP by operations staff
- telecommunications by operations staff

Notes:

ASSURE THAT SOMEONE HAS KNOWLEDGE & AUTHORITY

TO COORDINATE THE RECOVERY

- formalize plan and have it approved
- choose coordinator and alternate
- train personnel in plan
- authorize coordinator's control over recovery process

Notes:

IMPLEMENT LONG-TERM RECOVERY

- move production back to original facilities
(or replacement)
- reinstate lower priority functions
 - full testing
 - trainings

Notes:

THE PLAN

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SECURITY GUARDS CALL IN A PROBLEM TO COORDINATOR

- first call is to Supervisor of Operations or alternate
 - normally Computer Operator is designated alternate

COORDINATOR ALERTS OTHERS

- EDP Manager
 - advises top management, insurance, auditing, legal & public relations
- Operators
 - move most current available tapes to new host system
- Telecommunications
 - to help confirm proper implementation of current lines
 - to acquire new lines as required
- Systems Analysts
 - to advise major users of their status and what is required of them to help recover the system completely
- Supervisor of Systems & Programming
 - to advise his personnel on changes required in location and function
- Corporate EDP
 - make arrangements to change routine regarding input from IBM/370 system
- Other users who buy EDP service from Chemicals EDP.
 - financial model users, Treasury, etc.

Notes:

THE PLAN (cont'd)

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COORDINATOR SUPERVISES RECONSTRUCTION OF SYSTEM

- perform if alternate host required:
 - load Jcl file to create account structure from tape
 - remove passwords from MANAGER.SYS
 - stream Jcl file just loaded
 - restore passwords to MANAGER.SYS
 - verify that production accounts have been loaded
 - set UDC's as noted on system console
 - store Jcl listings with passwords in locked area
- restore all production files & data bases
 - note: 2 levels of SL only in case going to foreign system
- process any existing transaction tapes against data bases
- restore third-party software as required
(ADAGER/3000,QEDIT,ASK/3000,TAPS)
- advise systems analysts to verify data for respective users
and have them advise users to re-enter any transactions which
have been lost.
- advise users with whom operations has direct access that system
is available for their use.
- contact suppliers to order sufficient supplies to carry on.

COORDINATOR PLANS MOVE BACK TO PRIMARY HOST SYSTEM IF NECESSARY

- set authorization to rebuild if necessary and re-equip
- prepare to follow procedure similar to above when the original
host is again available.

Notes:

RESULTS

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** This plan is just being formalized. We have tested the portion to Piggyback account structures from one system onto another and it performs as expected. It writes on the console a list of which users require the setting of a catalog, but is not yet sophisticated enough to say which catalog must be set.

We plan to test this system at least twice per year to assess its effectiveness and fill in any weak points BEFORE the disaster strikes. We anticipate the major problem - the one over which we have least control - would be with telecommunications.

The program to create the Jcl file is on the swap tape under the name "PIGYBAK".

Notes: