



# **ICT DATA BACKUP & RECOVERY POLICY**

Council Approved: 05/12/2017

Council Resolution Nr: C.5

## **1. PURPOSE:**

It is the policy of the ICT Department (ICT) to provide computer system backups to tape on a regular basis. The ICT Department (ICT) is responsible for implementing this policy. This document outlines what the policy means, and what benefits and costs accrue.

## **2. PHILOSOPHY:**

The backup system is designed to recover from “catastrophic loss,” meaning complete destruction of a machine, set of machines, or the entire site. It also covers disk hardware failure, where only part of a machine needs recovery. The purpose is disaster recovery as opposed to covering for user mistakes.

A side effect of the backup system is the ability, in many cases, to restore individual files or sets of files for individual users. Doing this takes some time, thus priorities must be considered. Users are urged to ensure that their actions will bring about the desired results before pressing that last keystroke.

## **3. ASSUMPTIONS:**

It is assumed that: The ICT Department, and thus total disk storage, will continue to expand at a rate similar to what has been taking place over the past year; the ICT Department will remain heterogeneous in computing equipment types, and that the heterogeneity is likely to increase, with all platforms requiring support.

## **4. SCHEDULING:**

A complete current backup set will be moved offsite at least once per month. A complete current backup set will be made at least once per month for on—site storage. Incremental capability to restore those sets to more current status will be accomplished on approximately an everyworkday-evening basis. Complete backup sets will be retained for a minimum of one year. Incremental sets will be maintained for a minimum of one month. Backups will generally be performed at night and on weekends (local times). On occasion, particularly when a run fails, the ICT Department (ICT) will perform one or more backups during workdays, but these will be done with a goal of minimizing impact on users while accomplishing the backup, and only when necessary.

This schedule means that not all files will be recoverable at any given time. Machines can be restored to the status they were in on a given day at the time the backup was initiated. Any files created (or versions of files modified) after one backup ran then modified or deleted prior to the next run will not be restorable. Files not present at the time of a monthly backup will not be recoverable after the incremental tapes are recycled (generally a few months later).

## **5. RESTORATIONS:**

Machines requiring recovery from disk damage or other catastrophic loss will be restored as best possible at high priority. User file restorations will be handled as time permits.

## **6. VERIFICATION:**

Once per week the backup system will be tested by restoring a single random file from a random machine, and manually inspecting it for accurate restoral. Once per month a similar test will be made using an entire directory. These restoral tests will be performed into temporary areas so that current "real" user copies of the files will not be overwritten. The form of manual inspection will vary with the type of file(s) restored. Text may be "diff"ed or inspected manually. Binaries may be binary "diff"ed where the tape copy is still current, may be run in some cases, or may be dumped in hexadecimal format for manual comparison.