

Training module # SWDP - 49

***How to transfer data from
temporary to permanent
databases***

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Table of contents

	<u>Page</u>
1. Module context	2
2. Module profile	3
3. Session plan	4
4. Overhead/flipchart master	5
5. Handout	6
6. Additional handout	8
7. Main text	9

1. Module context

While designing a training course, the relationship between this module and the others, would be maintained by keeping them close together in the syllabus and place them in a logical sequence. The actual selection of the topics and the depth of training would, of course, depend on the training needs of the participants, i.e. their knowledge level and skills performance upon the start of the course.

2. Module profile

Title	:	How to transfer data from temporary to permanent databases
Target group	:	HIS function(s):
Duration	:	x session of y min
Objectives	:	After the training the participants will be able to:
Key concepts	:	•
Training methods	:	Lecture, exercises
Training tools required	:	Board, flipchart
Handouts	:	As provided in this module
Further reading and references	:	

3. Session plan

No	Activities	Time	Tools
1	<i>Preparations</i>		
2	<i>Introduction:</i>	min	OHS x
	<i>Exercise</i>	min	
	<i>Wrap up</i>	min	

4. Overhead/flipchart master

5. Handout

Add copy of the main text in chapter 7, for all participants

6. Additional handout

These handouts are distributed during delivery and contain test questions, answers to questions, special worksheets, optional information, and other matters you would not like to be seen in the regular handouts.

It is a good practice to pre-punch these additional handouts, so the participants can easily insert them in the main handout folder.

7. *Main text*

Contents

- | | | |
|---|-------------------------------------------------------------|---|
| 1 | Data transfer from temporary datasets to permanent datasets | 1 |
|---|-------------------------------------------------------------|---|

How to transfer data from temporary to permanent databases

1 Data transfer from temporary datasets to permanent datasets

1.1 Transferring raw data from SDPCs/RDPCs to SDSCs/RDSCs

Under HIS the data processing and the data storage functions are separated. The raw and processed data sets are to be archived at various data storage centres (DSCs) of state and central agencies. The availability of raw data at the DSCs, as **permanent databases**, is purely for the purpose of long term archival and for limited dissemination for specific purposes, if required. The raw data as prepared in SWDES workareas at various SDDPCs is routed through the controlling DDPC and is finally available at the SDPC/RDPC. A copy of the same is also kept at the DDPCs for ready reference at the time of data validation. At DDPCs and SDPCs/RDPCs all the raw data is available in distinct SWDES workareas for each SDDPC separately in one single file.

The raw data available at SDPCs is in the temporary databases of SWDES. This data is to be transferred to the permanent database(s) of the respective DSCs using dedicated data storage software (under procurement process). The databases in the DSCs will make use of the uniform data structure in an Oracle database environment to be compatible with the selected database system for the dedicated groundwater data processing system (presently under procurement) & surface water data processing system (HYMOS). This data storage application software will be developed to carry out all required database functions in all SDSCs/RDSCs/NDSCs. The data storage software will be standard, uniform and generic in nature having all necessary auxiliary features like user authentication and management, access control, data integrity and encryption etc. Though the detailed specifications are under development and its subsequent procurement and implementation will take some more time from now (i.e. January 2001), it is attempted here, in the following paragraphs, as how the transfer of the raw data from the side of the SDPCs/RDPCs would be made. Though the exact procedure of import of these transfer data into the permanent database(s) by the data storage system would be known only after the system is fully defined. However, such import functionality would obviously have all the standard features required for import of new data streams like sender's authentication, data comparison, data integrity etc. No attempt, except for a brief mention, is therefore being made here to further elaborate on this aspect.

1.1.1 Export of raw data from SDPCs/RDPCs to transfer databases

The incremental SWDES transfer datasets, containing raw data, arriving at SDPCs/RDPCs from the DDPCs are used for two purposes: (a) transferring raw data from SDPCs/RDPCs to respective SDSCs/RDSCs and (b) regularly consolidating in respective SWDES workareas for use at SDPCs/RDPCs for reference.

Normally, as a regular routine monthly transfer of incremental data sets from SDDPCs would be available at DDPCs by around 13th of each month. From the DDPCs, similar incremental databases are transferred to the corresponding SDPCs/RDPCs (by 15th of the same month). After the receipt of these incremental transfer databases, they are transferred to the SDSC/RDSC by around 20th of every month. By the same time consolidation of these transfer workareas is also made in the respective SWDES workarea for each SDDPC separately.

For transfer of incremental raw datasets as received from the DDPCs to the DSCs, first the workareas are registered in SWDES and then using the option of "Export of data to HYMOS (in ".mdb" format)" is used to make an intermediate transfer dataset. This transfer dataset

will be in MS Access database structure and would be used for import into the permanent databases by the data storage system.

A uniform guideline may be followed for assigning file names to such transfer workareas being sent from the SDPCs/RDPCs to the respective SDSCs/RDSCs. This will be highly beneficial in recognising the transfer workarea by merely knowing its filename. The filenames to be used for such transfer workareas are recommended to be based on: (a) a string "TRANnn", (b) yymmdd and (c) name of the parent workarea as used at SDPC/RDPC. Here "nn" in the string is any number used for adequately distinguishing different transfer workareas of the same date and "parent" workarea is the one from which the transfer is being made.

1.1.2 Import of raw data from transfer databases into SDSCs/RDSCs

The transfer databases prepared by the SDPCs/RDPCs pertaining to each SDDPC separately, for the period beyond the last such transfer, are imported by the data storage system available at DSCs. The details of the import procedure would be available only when the design of the system being procured is fully known and hence is not further elaborated here.

1.2 Transferring processed data from SDPCs/RDPCs to SDSCs/RDSCs

At the SDPCs/RDPCs, the whole state or a very large drainage region is under the jurisdiction. The state would include parts or full of one or more independent river basins whereas the regions of CWC being based on the river basins would include one or more complete independent river basins. There are two types of workareas for processed data at the SDPCs/RDPCs: (a) workareas for the individual independent river basins or part thereof within the state and (b) unified workarea for data of the whole state/region together (having only finalised/summary data).

Transfer of data between SDPCs/RDPCs and the respective SDSCs/RDSCs will be accomplished, as a routine, from the workareas maintaining data of individual independent river basins or part thereof.. Since these workareas would have all the detailed authenticated data, these will be used as the nodal databases for exchange of authenticated data from SDPCs/RDPCs to the respective SDSCs/RDSCs. The processed data from DDPCs are available at SDPCs/RDPCs by the 1st of the second month after the month of observation. At SDPCs/RDPCs hydrological validation will be carried out and also data would be compiled in various forms as authenticated data. Such processing would be over by the end of the month and at that time (i.e. by 30th of the second month after the month of observation) these finalised data are transferred to SDSCs/RDSCs.

For this, transfer databases from each of the available individual workareas in HYMOS will be made. Such transfer data shall also be prepared by using the "Export transfer database" option in exactly same manner as explained earlier in the sections on "transfer of processed data between temporary databases".

A uniform guideline can be followed for naming these transfer databases for an easy recognition. The filenames to be used for these transfer databases are recommended to be based on: (a) a string "EXPOnn", (b) yymmdd and (c) name of the parent workarea. Here "nn" in the string is any number used for adequately distinguishing different transfer databases of the same date and "parent" workarea is the one from which the transfer is being made. Obviously the details of naming of such transfer databases is dependent on the type of protocol with the data storage system and therefore may differ from what is prescribed here on the basis on actual details of the system. However, idea of a uniform

guideline for naming such transfer file is generic and that the basis may differ due to actual requirements.

As soon as these transfer databases are made available to the SDSCs/RDSCs, these will be imported in the permanent databases after all necessary requirements of protocol like sender's identification, authorisation, data comparison, integrity etc. are fulfilled. The details of such import options are not discussed here as the system is yet to be fully defined and developed.