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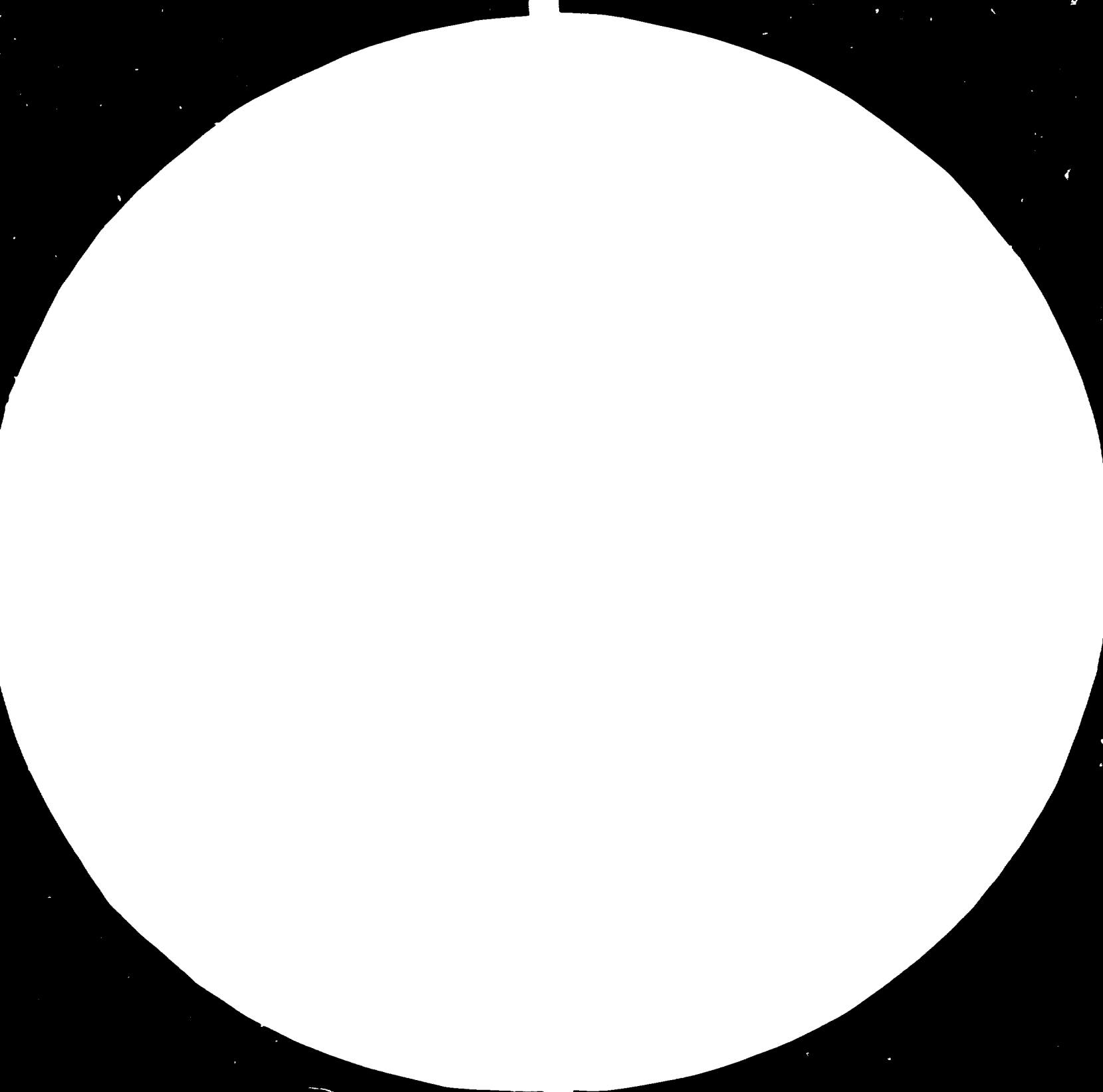
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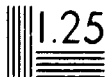
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1.5

1.6

1.8

2.0

2.2

2.5

Wavelength (nm) 589

Resolution (cycles/mm) 100

13046

September 20, 1983
English

Report :

- Performance of a feasibility study concerning a project of Arab Axle Manufacturing Company using UNIDO'S computer model for feasibility analysis and reporting (CONFAR).
- Preparation and elaboration of a working manual intended to be used as a main reference for CONFAR seminars

Prepared for UNIDO, I/O, Feasibility Studies Section

Vienna, August/September 1983
Edgar A. Rosenmayr

1263



1.1 FEASIBILITY STUDY OF AN AAMC-PROJECT
=====

DURATION OF WORK: 1 1/2 MAN WEEKS

THE PROJECT: ERECTION OF A PLANT FOR THE PRODUCTION AND ASSEMBLING
----- OF AXLES (TWIN-AXLES) USED FOR HEAVY TRUCKS AND TRAILERS
IN SAUDI ARABIA.

THE DATA: UNIDC GOT THE DATA REFERRING TO THE PROJECT PREPARED IN
----- ACCORDANCE WITH UNIDO'S MANUAL FOR FEASIBILITY STUDIES
FROM MR. R.M. WITHANA, INDUSTRIAL PLANNER OF UNITED
NATIONS DEV. PROGRAMME IN RIYADH, SAUDI ARABIA.

AFTER THE BY COMFAR REQUIRED TRANSFORMATIONS OF THE DATA HAD BEEN
MANAGED, AS NEXT STEP THE APPLICATION OF THE COMPUTER MODELL
COULD BE STARTED.

SHORT DESCRIPTION OF THE ALTERNATIVES CONSIDERED
=====

- BASIC CASE (FILE AAMC 14)

HERE A PRODUCTION CAPACITY OF 6000 AXLES WAS ASSUMED.

- EXTENDED CASE (FILE AAMC 13)

STARTS WITH A PRODUCTION CAPACITY OF 6000 AXLES ASSUMING
AN INCREASE OF CAPACITY IN THE THIRD YEAR OF PRODUCTION
TO 12000 AXLES. THIS HIGHER CAPACITY IS FULLY EMPLOYED
BEGINNING WITH THE SIXTH YEAR OF PRODUCTION.

- FIRST VARIATION OF THE EXTENDED CASE (FILE AAMC 15)

THE SAME CASE LIKE ABOVE (AAMC 13) BUT ASSUMING A REDUCTION
OF ALL RAW MATERIAL COSTS BY 5%.

- SECOND VARIATION OF THE EXTENDED CASE (FILE AAMC 16)

BASED ON THE EXTENDED VERSION (AAMC 13) AN INCREASE OF
SALES PRICES BY 5% WAS ASSUMED.

- MEDIUM CASE (FILE AAMC 17)

STARTING WITH 6000 AXLES CAPACITY AN INCREASE IN THE THIRD
PRODUCTION-YEAR TO 9000 AXLES, REACHING THE NEW TOP CAPACITY
IN THE SIXTH PRODUCTION-YEAR, WAS ASSUMED.

- THIRD VARIATION OF THE EXTENDED CASE (FILE AAMC 18)

COMBINES THE FIRST AND SECOND VARIATION OF THE EXTENDED CASE (AAMC 13): BOTH, A REDUCTION OF ALL RAW MATERIAL COSTS BY 5% AND AN INCREASE OF SALES PRICES BY 5% WERE CONSIDERED.

- FIRST VARIATION OF THE BASIC VERSION (FILE AAMC 19)

LIKE THE ABOVE DESCRIBED VERSION (5% INCREASE OF SALES PRICES AND 5% DECREASE OF ALL RAW MATERIAL COSTS) BUT USING THE BASIC VERSION (AAMC 14) AS STARTING POINT

- FIRST VARIATION OF THE MEDIUM CASE (FILE AAMC 20)

WITH THE MEDIUM CASE (AAMC 17) AS BASIS THE ALREADY WELL KNOWN VARIATIONS OF RAW MATERIAL PRICES AND SALES PRICES WERE COMPUTED.

SUMMING GENERALLY UP THE RESULTS, WE CAN STATE:
EACH EXTENSION OF THE CAPACITY CONSIDERED AS WELL AS EACH IMPROVEMENT OF NET CASHFLOW MAKES THE PROJECT MORE PROFITABLE.

BESIDES COMPLETE REPORT SCHEDULES OF THE BASIC CASE AND THE EXTENDED CASE, YOU WILL FIND ANNEXED THE CORRESPONDING TO THE COMPUTED VARIATIONS RELEVANT SUBTABLES OF THE INPUT TABLE

2.1 PREPARATION OF A COMFAR SEMINAR PAPER
=====

DURATION OF WORK: 2 1/2 MAN WEEKS

THE COMPOSED PAPER, INTENDED TO SERVE AS SUPPORT FOR COMFAR INTRODUCTORY AND TEACHING SEMINARS, IS SPLIT UP INTO FIFTEEN LECTURES, BEGINNING WITH AN EXPLANATION OF THE HANDLING OF THE COMPUTER FACILITIES REQUIRED, AND CULMINATING AFTER A STEP-WISE OUTLAY OF THE HANDLING AND APPLICATION OF COMFAR IN A DISCUSSION OF SENSITIVITY ANALYSIS.

ANNEXED YOU CAN SEE THE CONCRETE STRUCTURE AND CONCEPTION OF THE WORKING MANUAL.

LECTURE 1
=====

TIME (IN HOURS): 2

OBJECT: INTRODUCTION TO COMFAR (SHORT DESCRIPTION)

=====

OUTLAY OF THE STRUCTURE AND SCOPE OF COMFAR (OVERVIEW)

INTRODUCTION OF THE REQUIRED HARDWARE (ELEMENTS AND TREATMENT)

LECTURE'S AIM:

=====

THE STUDENT SHOULD BE ABLE TO ANSWER:

- WHAT IS COMFAR?
- WHEN IS IT USEFUL TO APPLY COMFAR?
- WHAT ARE IT'S SPECIAL FEATURES AND ADVANTAGES IN VIEW OF CUSTOMARY FINANCIAL ANALYSIS?
- HOW IS THE COMFAR SYSTEM BUILT UP AND HOW DO THE MAIN SUBSYSTEMS INTERACT?
- WHICH HARDWARE IS USED BY UNIDO FOR PROCESSING COMFAR?
- WHAT IS TO BEAR IN MIND IN DEALING WITH THIS HARDWARE AND OTHER COMPUTER REQUIREMENTS LIKE E.G. DISKETTES?

CONTENTS OF LECTURE

=====

LECTURE 2
=====

TIME (IN HOURS): 2 - 3

OBJECT: STARTING THE COMPUTER SYSTEM,
=====

- DISCUSSION OF SOME IMPORTANT CONTROL FUNCTIONS
- FORMATTING OF BLANK DISKETTES
- COPYING AND DELETING OF EXISTING FILES

LECTURE'S AIM:
=====

THE STUDENT SHOULD BE ABLE TO:

- START UP THE SYSTEM (COLD BOOT, WARM BOOT)
- INTERPRETE THE MOST IMPORTANT CORRESPONDING ERROR MESSAGES
- KNOW WHEN AND HOW TO USE THE DISCUSSED CONTROL FUNCTIONS
- COPY AND DELETE EXISTING FILES

CONTENTS : PAGES 32-37, 70-73
=====

THIS LECTURE INCLUDES A DEMONSTRATION OF THE DISCUSSED ITEMS

LECTURE 3: TIME (IN HOURS): 2
=====

OBJECT: FIRST PHASE OF COMFAR: DATA INPUT AND UPDATING
===== (GENERAL INTRODUCTION)

- RAW STRUCTURE OF THE INPUT-TABLE
- VALUE ENTRY (FUNDAMENTAL PRINCIPLE)

LECTURE'S AIM:
=====

THE STUDENT SHOULD KNOW HOW:

- TO BUILD UP A NEW INPUT TABLE (IN PRINCIPLE)
- TO UPDATE AN EXISTING INPUT TABLE (IN PRINCIPLE)
- TO USE THE HANDLING FACILITIES FOR DATA ENTRY

CONTENTS: COMFAR MANUAL PAGES 38-44
=====

UTILITIES: REQUIRED CORRESPONDING MENUS
=====

- BLANK TABI

SHORT DEMONSTRATION OF THE DISCUSSED ITEMS

LECTURE 4

TIME (IN HOURS): 2

=====

OBJECT: DATA ENTRY (FIRST PART)

=====

- TEXT VARIABLES
- GENERAL VARIABLES
- STRUCTURE AND ORGANISATION OF THE INPUT TABLE

LECTURE'S AIM:

=====

THE STUDENT SHOULD KNOW:

- THE MEANING OF TEXT AND GENERAL VARIABLES AND BE ABLE
- TO INTERPRETE CHANGES OF THEIR VALUES
- TO FILL UP THESE PART OF THE INPUT TABLE WITH VALUES
- THE SUBTABLES
- THE FUNDAMENTAL STRUCTURE OF THE LINES (ARRAYS) BUILDING UP THE TABLE
- THE GENERAL ORGANISATION OF SUBTABLES AND LINES (LOCAL - FOREIGN)

CONTENTS: COMFAR MANUAL PAGES 41, 80-82

=====

UTILITIES: MENU OF TEXT VARIABLES AND GENERAL VARIABLES

=====

EXAMPLE OF SUBTABLE AND LINE STRUCTURE

SHORT DEMONSTRATION

LECTURE'S AIM OF THE NEXT FIVE LECTURES CAN BE CHARACTERIZED AS
=====

FOLLOWS:

THE STUDENT SHOULD BE ABLE TO PUT THE BEFORE WORKING WITH THE
COMPUTER ACCORDING TO UNIDO'S MANUAL FOR FEASIBILITY STUDIES
PREPARED DATA INTO THE CORRESPONDING SUBTABLES OF THE COMFAR
SYSTEM.

LECTURE 5
=====

TIME (IN HOURS): 2

OBJECT: DISCUSSION OF SUBTABLES: 'INITIAL FIXED INVESTMENT'
===== 'CURRENT FIXED INVESTMENT'

- ENTRY OF DATA INTO THESE SUBTABLES

CONTENTS: COMFAR MANUAL PAGES 83,84
=====

REFERENCE: UNIDO MANUAL SCHEDULES: 5-1,6-1,10-1,10-2
=====

UTILITIES: - BLANK SUBTABLES
=====

- GENERATION OF THE SUBTABLES BY USING THE EXAMPLE
PREPARED IN THE COMFAR MANUAL

LECTURE 6
=====

TIME (IN HOURS): 1 - 2

OBJECT: DISCUSSION OF AND DATA ENTRY INTO SUBTABLE:
===== 'PRODUCTION COSTS'

REFERENCE: UNIDO MANUAL SCHEDULE 10-3/2,10-12
=====

UTILITIES: BLANK SUBTABLE
===== - DEMONSTRATION OF DATA ENTRY BY USING THE ABOVE MENTIONED
EXAMPLE

CONTENTS OF LECTURE:
=====

LECTURE 7
=====

TIME (IN HOURS): 1 - 2

OBJECT: DISCUSSION OF AND DATA ENTRY INTO SUBTABLE:
===== ' PRODUCTION AND SALES PROGRAMME'

REFERENCE: UNIDO MANUAL SCHEDULES 3-1,3-3
=====

UTILITIES: LIKE ABOVE
=====

CONTENTS OF LECTURE:
=====

LECTURE 8
=====

TIME (IN HOURS): 1 - 2

OBJECT: DISCUSSION OF AND DATA ENTRY INTO SUBTABLE:
===== 'SOURCE OF FINANCE'

REFERENCE: UNIDO MANUAL SCHEDULES 10-8/1, 10-8/2
=====

UTILITIES: LIKE ABOVE
=====

DEMONSTRATION BY PUSHING FORWARD THE EXAMPLE

CONTENTS OF LECTURE:
=====

LECTURE 9

TIME (IN HOURS): 1 - 2

=====

OBJECT: DISCUSSION OF AND DATA ENTRY INTO SUBTABLE;
===== ' INCOME, TAX AND CASHFLOW '

REFERENCE: U DO MANUAL CHAPTER X

=====

DEMONSTRATION OF INPUT TABLE-GENERATING FINISHED; AFTERWARDS A BACKUP
COPY OF THIS INPUT TABLE IS PRODUCED

CONTENTS OF LECTURE:

=====

LECTURE 10

TIME (IN HOURS): 2 - 3

=====

OBJECT: INTRODUCTION TO THE SECOND PHASE OF COMFAR:

=====

- THE CALCULATING SYSTEM
- MODULE PROGRAMMES
DESCRIPTION, ASSUMPTIONS FOR COMPUTATION
- STARTING THE CALCUL SYSTEM

LECTURE'S AIM: THE STUDENT SHOULD KNOW

=====

- THE INTERNAL STRUCTURE OF COMFAR SUBSYSTEM CALCUL
- THE ASSUMPTION NEEDED FOR COMPUTATION
AND BE ABLE
- TO START COMFAR CALCULATION

UTILITIES: MENU FOR STARTING CALCUL

=====

- DEMONSTRATION OF STARTING CALCUL

CONTENTS OF LECTURE:

=====

LECTURE 11
=====

TIME (IN HOURS): 2 - 3

OBJECT: DESCRIPTION AND DISCUSSION OF
=====

- THE OUTPUT TABLE
- AUXILIARY TABLES (TABW, TABC)

LECTURE'S AIM: THE STUDENT SHOULD KNOW
=====

- THE STRUCTURE AND CONTENTS OF TABO ,TABW AND TABC AND BE ABLE TO
- INTERPRETE THE COMPUTED RESULTS

UTILITIES: PRINTS OF THE OUTPUT TABLE AND THE AUXILIARY TABLES
=====
CORRESPONDING TO OUR EXAMPLE

CONTENTS OF LECTURE:
=====

LECTURE 12

TIME (IN HOURS): 1

=====

OBJECT: THE THIRD PHASE OF COMFAR: REPORT

=====

- PRINTING OF SCHEDULES AND LISTINGS (GENERAL)

LECTURE'S AIM: THE STUDENT SHOULD KNOW WHICH DIFFERENT KINDS OF

=====

PRINTS AND LISTINGS COMFAR OFFERS TO ITS USER

AND BE ABLE TO PRODUCE THEM IN PRINCIPLE

UTILITIES: REPORT MENU

=====

CONTENTS OF LECTURE:

=====

LECTURE 13
=====

TIME (IN HOURS): 3

OBJECT: DEMONSTRATION OF APPLICATION OF COMFAR SUBSYSTEM REPORT
=====
IN DETAIL BY USING OUR EXAMPLE

LECTURE'S AIM: THE STUDENT SHOULD BE ABLE TO PRODUCE ANY PRINT
=====
AND/OR LISTING HE (SHE) WANTS AS FAR AS IT IS
OFFERED BY COMFAR

UTILITIES: MENUS
=====

DEMONSTRATION OF THE DISCUSSED OBJECT USING OUR EXAMPLE

CONTENTS OF LECTURE:
=====

LECTURE 14

TIME (IN HOURS): 2

=====

OBJECT: SPECIAL FEATURES OF CALCUL

=====

SENSITIVITY ANALYSES

LECTURE'S AIM: THE STUDENT SHOULD BE ABLE TO

=====

- USE THE ADDITIONAL TO THE DEFAULT VERSION OFFERED PROCEDURES
- UPDATE THE INPUT TABLE ACCORDING TO SENSITIVITY ANALYSIS

UTILITIES: PREPARED EXAMPLE FOR SENSITIVITY ANALYSES CORRESPONDING

=====

WITH OUR UP TO NOW DISCUSSED EXAMPLE

CONTENTS OF LECTURE:

=====

LECTURE 15
=====

TIME (IN HOURS): 2 - 3

LECTURE'S AIM: THE STUDENT SHOULD BE ABLE TO
=====

- ISOLATE THE CONSEQUENCES RESULTING FROM THE VARIATION OF CERTAIN VALUES IN THE INPUT TABLE
- INTERPRETE THE ALTERNATIVE RESULTS

CONTENTS: DISCUSSION BY USING THE REPORT SCHEDULES OF OUR BASE-CASE
=====
AND THE SCHEDULES CONCERNING THE RESULTS AFTER SENSITIVITY
VARIATIONS

