

29th April 1999

Presentation/discussion at the Aristotelio University of Greece
of the Egnatia Odos A.E Programme Office,
the Methodologies, and the Systems used to monitor and control
the £3.2Bn project

Π Ρ Ο Σ Κ Λ Η Σ Η

Το Τμήμα Πολιτικών Μηχανικών του Α.Π.Θ.
σας προσκαλεί στην ημερίδα που διοργανώνει
σε συνεργασία με την "ΕΓΝΑΤΙΑ ΟΔΟΣ Α.Ε.", με θέμα:
ΕΓΝΑΤΙΑ ΟΔΟΣ
Η ημερίδα θα πραγματοποιηθεί
την Πέμπτη 29 Απριλίου 1999, στις 9.00 π.μ.
στο Μεγάλο Αμφιθέατρο της Πολυτεχνικής Σχολής Α.Π.Θ.

Με τιμή
καθηγητής Κυριαζής Πιτιλάκης
πρόεδρος του Τμήματος Πολιτικών Μηχανικών Α.Π.Θ.

Με την υποστήριξη του
Γραφείου Διασύνδεσης
Α.Π.Θ.

Ε.Π.Χ.Α.
Ε.Π.Α.Α.

Η Μ Ε Ρ Ι Δ Α

Α.Π.Θ. ΤΜΗΜΑ
ΠΟΛΙΤΙΚΩΝ ΜΗΧΑΝΙΚΩΝ
&
ΕΓΝΑΤΙΑ ΟΔΟΣ Α.Ε.

ΕΓΝΑΤΙΑ ΟΔΟΣ

Π Ε Μ Π Τ Η
29 ΑΠΡΙΛΙΟΥ 1999
Α. Π. Θ.
ΠΟΛΥΤΕΧΝΙΚΗ ΣΧΟΛΗ
ΜΕΓΑΛΟ ΑΜΦΙΘΕΑΤΡΟ

PLANNING AND COST CONTROL IN EGNATIA ODOS A.E.**SUMMARY**

The Project Services department of "Egnatia Odos A.E" has the task to support management on a 'Programme Management' role with :

- 46 construction contracts - at this point in time
- approximately another 20 to be tendered and prepared for tender
- approximately 250 design contracts - at this point in time
- tendering concurrently construction contracts that could vary in value from 1bn Drh to 70bn GDR
- Control and monitor the status of hundreds of thousands of drawings from the preliminary stage to 'As build'.

This task is carried out by using :

- Primavera P3 for planning and budgeting activities
- Primavera Expedition for Contract Management which means - Cost Control of Design and Construction contracts as well as Document Control
- Microsoft Access used at user level but with the data in Oracle, which is developed to become a Company wide database and which will support all reporting requirements. This will then in the near future become the company Intranet.

These tools and what is happening is shown schematically in fig. x1

To be able to carry out the above and even more tasks that are covered by the Project Services department you need to have the appropriate Organisational structure within the department, as well as the required links with the other departments and organisations that are part of this large programme. This arrangement is shown in fig. x2.

At management level one has to be very careful and must be able to look into current but most importantly future needs of the organisation and then re-arrange accordingly the resources available.

1. The spine of the system

The WBS. The reporting and monitoring system, on any project/programme, is based on the WBS. The Egnatia Odos WBS is shown in the following 3 figures (x3,x4,x5) and it comprises of :

- The higher level (fig. x3), where as can be seen the programme is divided into Region, the Sector, the Section etc. down to the 7 major categories of work. This is the lowest level our planning system goes.
- The other two figures (x4 and x5) give an indication of the breakdown in the Cost and Document control systems (both in Primavera Expedition).

2. The reporting levels

There are three reporting levels in the "Egnatia Odos A.E". programme management system as far as Planning and Cost is concerned.

Fig. x6 provides a quick overview of the levels and some of the reports that are produced for/from the corresponding levels and is applied to the different phases of the programme (Design, Tender, Construction).

Information on progress, or new programmes, is entered at Level 3 for the contracts under construction, or new contracts, and monthly this is updated and electronically is moved upwards to Levels 2 and 1.

Similarly on Design, programmes are entered at the lowest level, as received by the design contractor, and summarised to the highest level.

Figures x7 and x8 are indicative for one of the current construction contracts.

Figure x9 is the detailed programme of a number of Design contracts for a particular section.

Using the above information and at the end of every year the department, using the capabilities of Primavera P3 kicks-off the process for the establishment of the annual company expenditure (for design and construction). The final product is the development of a number of reports that are updated monthly.

At the same time our unit that deals with European Community reports extracts progress information with which we inform the various recipients.

On the cost side Primavera Expedition is used for monitoring both Design and Construction using the construction cost codes that are described in figure 4. In addition the system allows for further expansions, if and whenever that is needed.

On the Cost Estimating side we have carried out Market Research and we have used the results to establish Egnatia unit rates. We have also developed various applications in Visual Basic in order to :

- establish theoretical performance of machinery, which is used for the creation of the rates
- provide statistical analysis on "offers" (from contractors) and deviation from standards
- improve the tender budget. This can be seen if one compares earlier discount rates to latest ones.

3. Risk Analysis

The department, has used on a number of occasions the software package @Risk to carry out Risk Analysis. We have used the extensive experience of personnel and some initial data on previous performance (mainly on contract duration) to create expected results and which became the springboard for a number of discussions.

Figure x10 presents some of the results (*please note that these are results from a number of assumptions that were valid at that point in time*).

Figures attached to this presentation can be seen in document:

- **Aristoteleio Presentation Figures**