

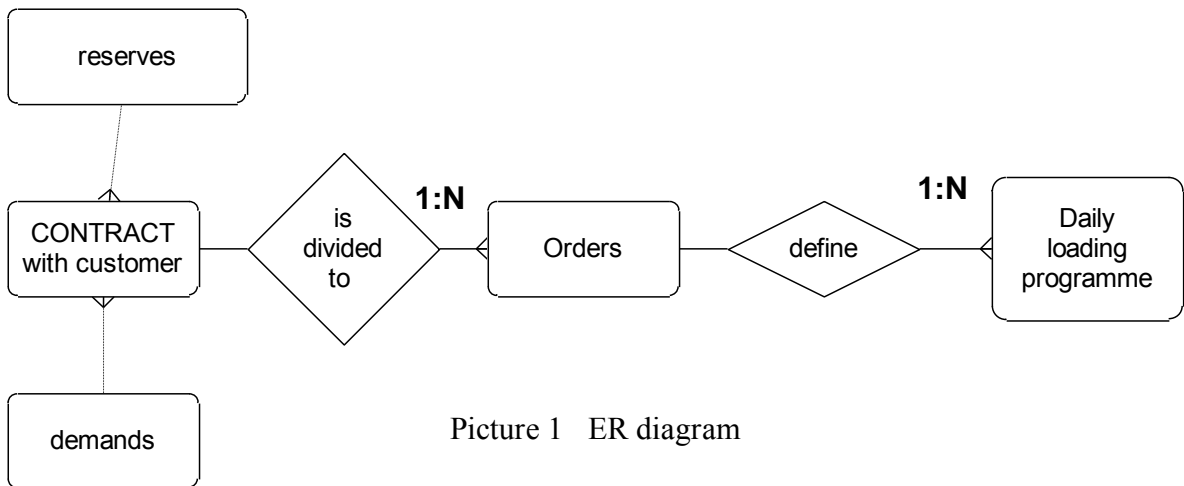
OKD SALES CONTROL SYSTEM

Roman Danel, Kovo informační systémy, Joint Stock Company., 8.5.2007

All of the products made by OKD a.s. (the black coal and subsidiaries OKK producing the coke) are sale by sales company called BOS (Banska obchodni spolecnost). BOS are using **OKD sales control system** based on SAP R/3 system (running on IBM AS/400). SAP R/3 system operates on manager control level. Nowadays there is six coal treatment plant and two coking plant connected to system.

The sales control system (2000-2003) was build for operational control of loading the products according daily loading programme generated by BOS. System is used by BOS and OKD both.

Note: Each coal treatment plant has a different topology of the operation, different raw and washed coal warehousing capacities, different technologies used for separation and different structure of the treated coal. There is a number of effects of random and unpredictable character occurring during the coal processing and the coal treatment plant product shipment and sale. Another important visual angle is what is the optimization criterion, whether the coal preparation efficiency itself or the sales optimization.



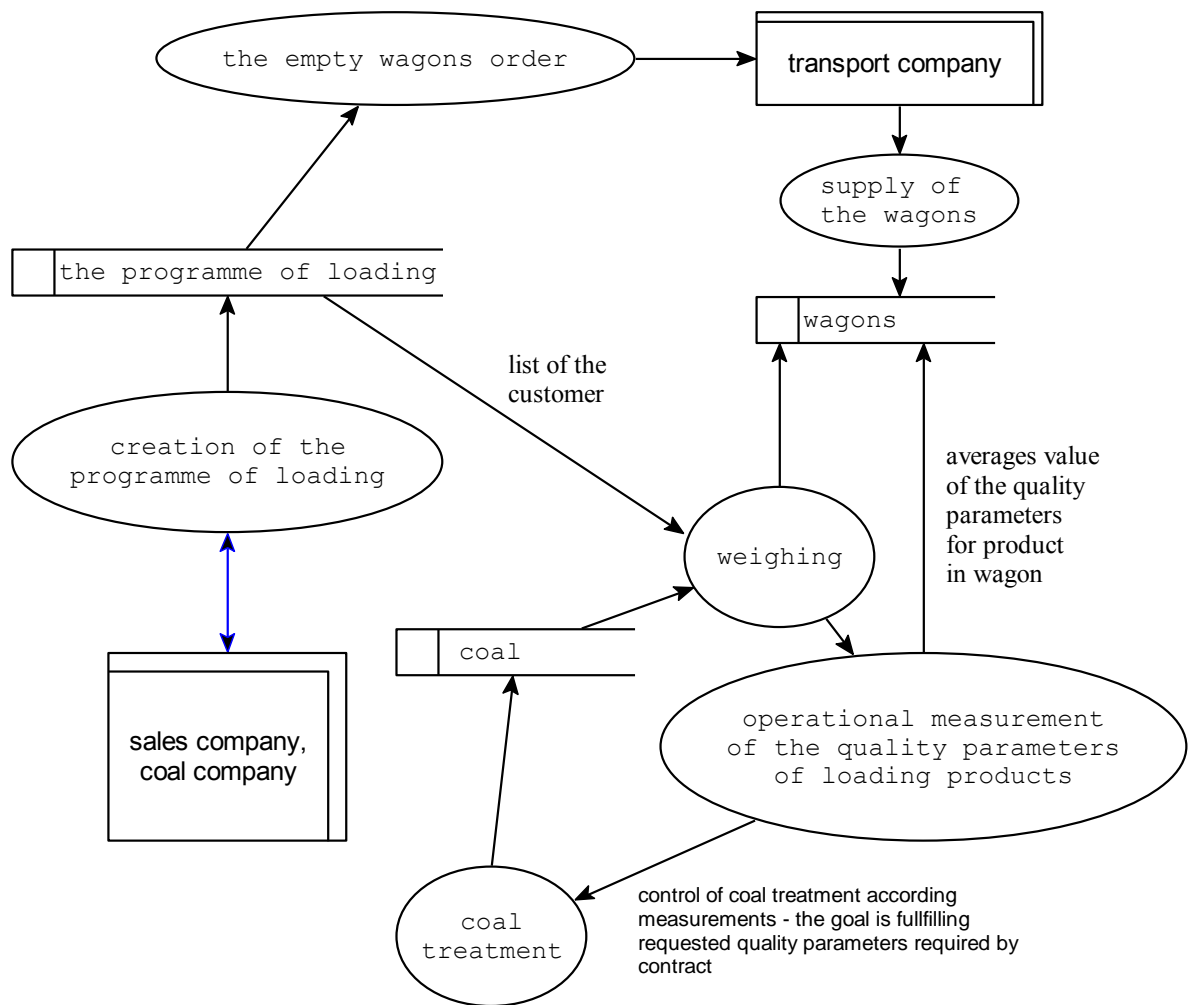
Picture 1 ER diagram

How the sales are control?

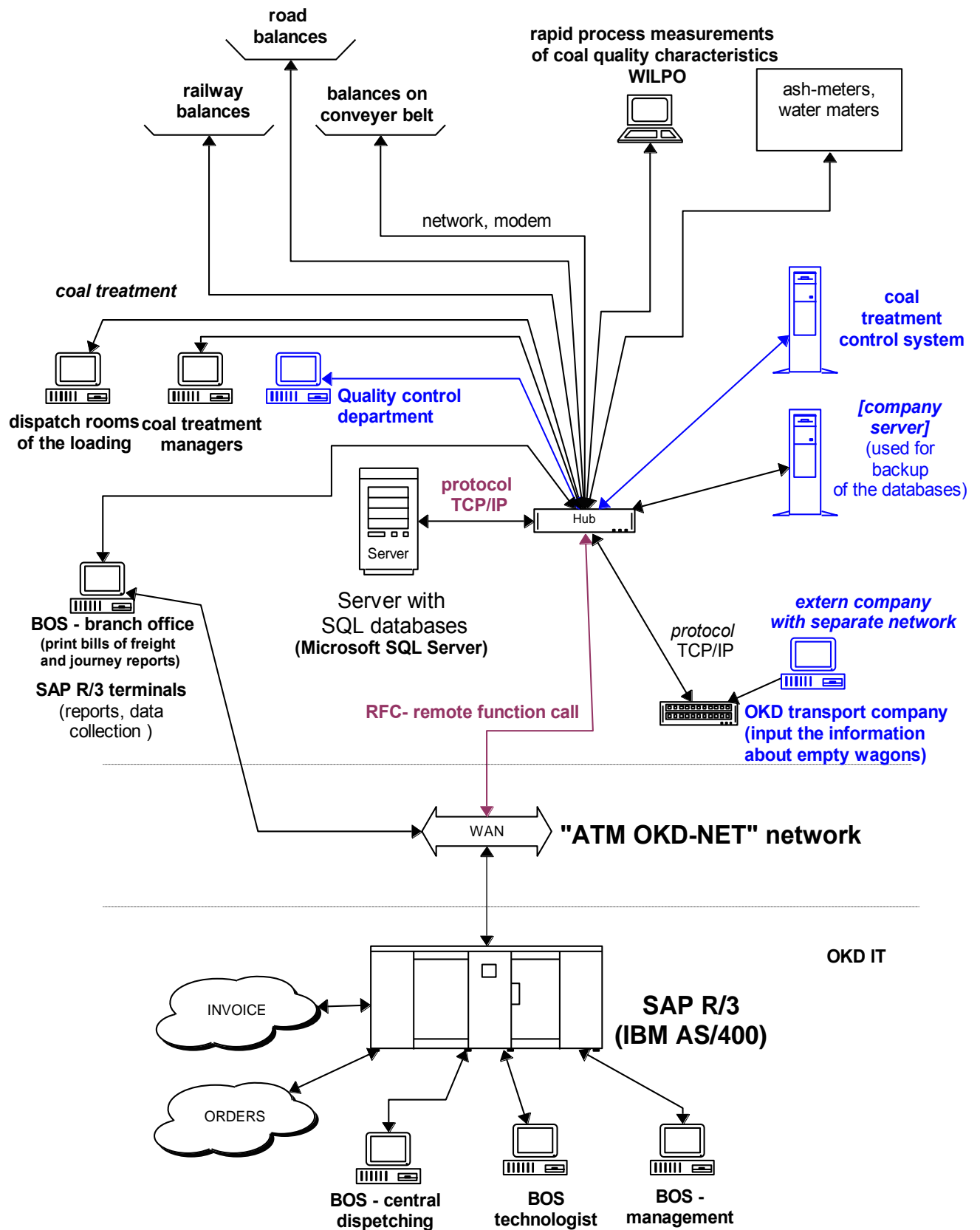
- Coal mine company knows resources (with approximately quality parameters, mainly ash content) will be mining during next year
- Sales company has contract from customer for one year of supplying
- Contract defines amount and required quality parameters of the products (ash, water,...)
- Sales and coal mine company together define the orders, that define which coal mine will be load the contract (according the plan of the quality of mining products). The order
- Sales company with cooperation form coal treatment plants define the daily loading programme (with knowledge about amount of empty wagons, amount of coal produce by coal treatment plant within a day and with knowledge of quality parameters)
- Daily loading programme is send to coal treatment plant 3 days before
- Management of coal treatment plant controls the process to fill-up daily loading programme (amount and required quality).
- The control system gives information about quality parameters in real-time that allows control the process to optimize the yield and to prevent overflow quality parameters

Sales control system provides

1. Download daily loading programmes from SAP R/3 and real-time visualisation of its fill-up (supplies the treatment plant with daily loading programmes –orders - used by managers of coal treatment plant to control the loading).
2. Connection to OKD Doprava (a transport company) - provides the system with important information on empty wagons available for loading.
3. real-time data collection about loading the wagons (the weights are automated with proper PC and connected via network)
4. The sales and shipping system, in turn, feeds the preparation plant with data used to print bills of freight and journey reports for shipped wagons
5. Interfaces to SAP R/3 central control system

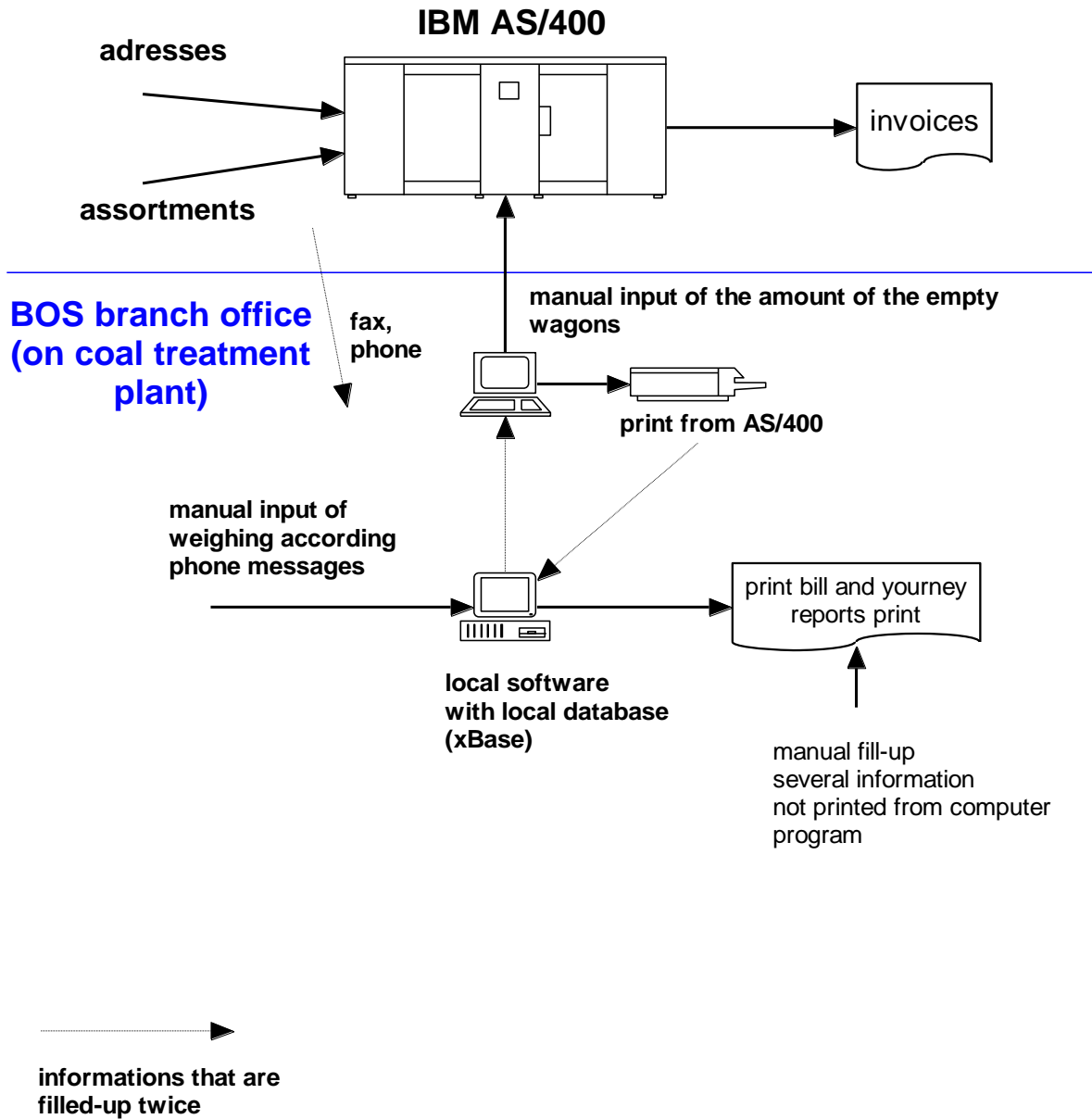


Picture 2. A diagram of the data flow



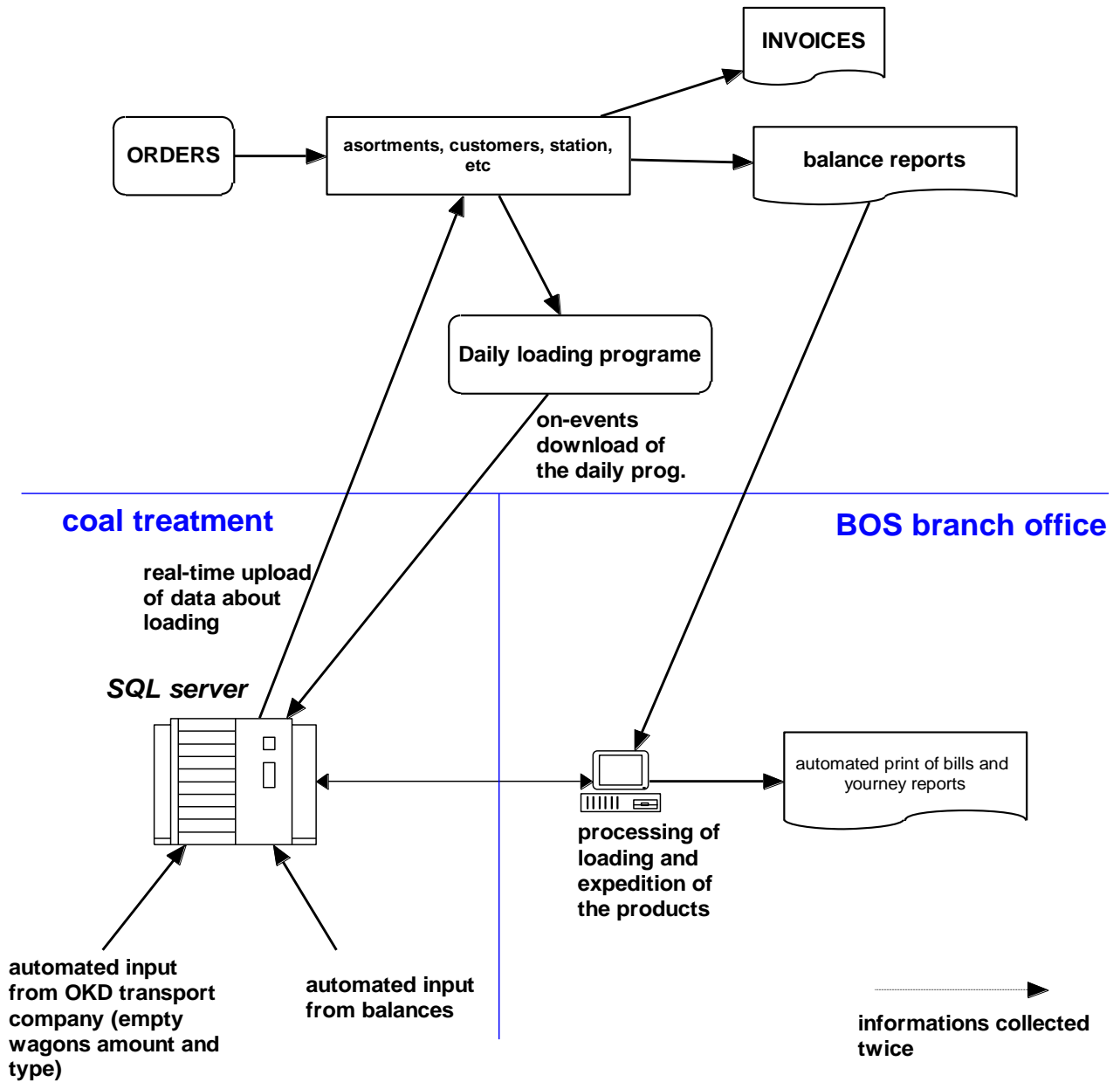
Picture 3. Sales control system - a schema for one coal mine (blue color - external control system)

BOS Ostrava (headquarters)



Picture 4. Status of SAP R/3 information system before the sales control system has been added

BOS Ostrava - SAP R/3 - headquarters



Picture 5 - SAP R/3 after the sales control system has been added

PROGRAM (OBJEDNÁVKA) NAKLÁDKY - VERZE 4

Nabídka

Volba dne nakládky: **Den nakládky: 6.6.2001 středa**

(F2) (F3) poslední volba dnešní spojení Exp

O.Z.: Dnes je: **6.6.2001 středa**

PROGRAM NAKLÁDKY (pro zvolený den):

St	Objednávka	Stanice určení	Koncový příjemce	Sortiment	Tuny	Vozy	Typ v.	Přep.	Tuny lož	V
Z	2220000917	KRAKÓW NOWA HUT	Huta im T. Sendzimir	UVPK 0-60 KSP (UH	1250	22	Eas	ČD	.00	
Z	2220000849	DUNAÚJVÁROS	DUNAFERR-DBK KO	UVPK 0-50 KSP (UH	1350	24	Eas	ČD	.00	
Z	2220000874	HANISKA PRI KOŠICI	U.S. Steel Košice, s.r	UVPK 0-50 KSP (UH	1750	31	Eas	ČD	.00	
Z	2220000850	LINZ STAHLWERKE	VOEST ALPINE STA	UVPK 0-50 KSP (UH	1215	27	Falls	ČD	1237.00	
Z	1210000890	LOUKY NAD OLŠÍ	ZÁVOD TKV	PRACH HRUBÝ 0-2	400	8	Falls	ČD	.00	
Z	1210000889	DĚTMAROVICE	ČEZ, a.s.	PRACH HRUBÝ 0-2	2300	25	Falls	OKDD	650.30	
Z	1210000895	OSTRAVA-BARTOVI	Nová huť, a.s., závod	PRACH HRUBÝ 0-2	1500	28	Falls	OKDD	.00	
Z	1210000891	PŘEROV PRAVÉ PŘE	Moravskoslezské te	PROPLÁSTEK 0-20	400	8	Falls	OKDD	.00	
Z	1220000839	TŘINEC	TŘINECKÉ ŽELEZÁR	UVPK 0-50 KSP (UH	800	15	Falls	ČD	800.00	
Z	1220000840	OSTRAVA HLAVNÍ N	KOKSOVNA SVOBO	UVPK 0-50 KSP (UH	800	15	Falls	OKDD	798.50	
Z	1220000841	OSTRAVA HLAVNÍ N	KOKSOVNA ŠVERM	UVPK 0-50 KSP (UH	350	7	Falls	OKDD	.00	
Z	1220000838	OSTRAVA-BARTOVI	Nová Huť, a.s. závod	UVPK 0-50 KSP (UH	1900	36	Falls	OKDD	.00	

Objednávka celkem vozy: **246** tuny: **14015,0** Naloženo: **69** **3485,8** **25 %**

Ovládání:

Stažení programu ze SAP R/3 (F5) Rozpis na směny (F6) Tisk objednávky vozů (F12) Kompletní výpis programu nakládky (F11) změny nastav načti data

KONEC (F9)
(c) ATP Soukup Verze 4.5.7 (17.5.2001)

Picture 6 Sample of GUI – Programme of Loading