

Work dosimetry system at OKG NPP, Sweden



Work dosimeter

Initiation



Turnstile

Personal Surface Contamination Control Monitor



Work dosimeter

- **Initiation upon entering RCA**
 - **Reset**
 - **Access control**
 - **Alarm settings**
 - Dose limits and constraints
 - Radiation Work Permit
 - Dose history
 - **Personal information**



Work dosimeter

- **Reading upon exiting RCA**
 - **Dose and dose rates per 15 s**
 - **Alarms**
 - **Movement detection**
 - **Readers in RCA**



Work dosimeter system

- **Dose limits and Constraints**
- **Doses and dose rates**
- **Operational and Maintenance system → Work Order Permit → Radiation Work Permit → Alarm levels**
- **Access control system**
- **Alarms from Personal Surface Contamination Control Monitor**

Work dosimeter system

- **Different levels of competence**
- **Education**
- **Instructions**
- **Support team – RP, IT, Maintenance**
 - **Designated performers**
- **Quality assurance**
 - **Updated every 20 mins or 12 hours**
 - **Controls vs TLD doses**

Quick follow up

- **Pre-set search**
- **Graphic mode**
- **Individual and work task doses**
- **Dose rates**
- **Exceeding of dose limits or constraints**
- **Access control**
- **Number of contaminated persons**
- **Standard information on dashboard**
 - **easily followed up**
 - **response action by the RP at the workplace**

Quick follow ups

EDOS - [Site Monitoring - Dashboard] | File Windows Help | 16:10:36

Dashboard : Overview | SAPHYMO

Site Monitoring << Overview Faulty EPD Reader Persons exceeding planning values Skyd > 80% budget Contaminated persons Top 20 Highest Dose Transfer Status Alarmed EPD Workdoses > 3 mSv

Dashboard

Person Monitoring

EPD Monitoring

Site Monitoring

Data Integration

EDOS Maintenance

Information & Queries

Statistics

Graphics

Administration

ALLADIN

Alarmed EPD

Contaminated person (PSCM)

Faulty EPD Readers

Persons exceeding planning values

Top 20 highest dose

Pin #	Name	D [mSv]
1943101819305E	BRAMBY ROLF	192,3730
1955060130925E	LUNDSTRÖM THOMAS	189,7600
1957012730125E	KARLSSON JAN	189,2500
1969032430765E	INGVARSSON PETER	185,4360
1958051119775E	TOIVONEN PETER	182,1060
1971112829715E	Gustafsson Stefan	181,1410
1966120613145E	KLAAR BJÖRN	171,4900
1961120830575E	KARLSSON TORBJÖRN	165,8420
1943091990755E	BUCHT KNUT	162,8070
1958100430175E	KINDGREN BENGT	162,6100
1967072329115E	OSSIANSOON LENNART	158,9240
1969072029955E	SJÖKVIST MARCUS	154,1610
1954042129375E	Ejengard Mats	148,5640
1944052529195E	JANSSON JAN	145,5890
1954111729755E	ZEILON NILS OVE	143,3300
1971061329915E	BJARNESTIG CONNY	142,5650
1971013166565E	ÖHRN JOHAN	141,6880

Transfers status since the last three days

Transfer	Status
ODU_WMG	✓
ODU_SKYD	✓
LDIS_PERSONAL	!
LDIS_DOSEINFO_TLD	!
LDIS_DOSIMETER_TLD	✓
ACS	✓
MISSION TRANSFER	✓
MISSION PURGE	✓

Skyd > 80% budget

D budget [mSv]	SKYD	Unit	Sum
000000015	1	1	1,618
000000025	2	2	0,020
000000035	3	0	0,019
000025846	2	0	0,131
000034910	1	1	1,696
000034911	1	0	0,115
000034941	2	0	0,002
000034945	2	1	1,724
000034947	1	0	0,177

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Start | ISOE_IAEA | EDOS - [Site Monitori... | EDOS_SCREEN_SHO... | SV | 16:10

Follow up

- **Operational Experience**
- **Performance Indicators**
- **Summary of doses**
- **Info to departments**
- **Compare work doses with TLD doses**
- **History to Operational and Maintenance System**
- **Single out particular jobs, work categories**
- **Budget planning**
- **Trending**
- **Contamination**

EDOS - [EDOS Maintenance - Work Dose] 15:31:07

Work Dose Maintenance : Steps per workdose

SAPHYMO

EDOS Maintenance << WorkDose List WorkDose Edition Multiple Changes Error List Maintenance Logs Steps per mission EPD Alarm Log PSCM Contamination Log **Steps per workdose** Deviation from Planning Values

EDOS Maintenance <<

- Work Dose
- SKYD
- Personal Maintenance
- Internal Dose Maintenance

Site Monitoring

Data Integration

EDOS Maintenance

Information & Queries

Statistics

Graphics

Administration

ALLADIN

Mission	SKYD	Workdose id	Starting date	Ending date	D [mSv]	
906152250121307	000105260	1359514	2009-06-16 02:33:04	2009-06-16 04:19:34	0,0100	Gan
906152250121307	000099344	1359513	2009-06-15 22:50:14	2009-06-16 02:33:04	0,0140	Gan
906150153051307	000099551	1357846	2009-06-15 01:53:07	2009-06-15 05:34:51	0,0060	Gan
906150033431307	000099551	1357803	2009-06-15 00:33:44	2009-06-15 01:43:00	0,0130	Gan
906140548401307	000101220	1357169	2009-06-14 05:55:53	2009-06-14 07:32:06	0,0240	Gan
906132342421307	000099551	1357137	2009-06-13 23:42:44	2009-06-14 04:34:48	0,0090	Gan
906130029141307	000099551	1356346	2009-06-13 00:29:15	2009-06-13 04:34:53	0,0290	Gan
906120019421307	000110607	1354955	2009-06-12 00:19:44	2009-06-12 05:24:19	0,0500	Gan
906110534131307	000000035	1353271	2009-06-11 05:34:15	2009-06-11 06:27:07	0,0010	Gan
906110340321311	000101220	1353260	2009-06-11 03:40:33	2009-06-11 05:28:49	0,0330	Gan
906092332131307	000099344	1351413	2009-06-10 04:16:59	2009-06-10 05:46:35	0,0060	Gan
906092332131307	000105360	1351412	2009-06-09 23:32:15	2009-06-10 04:16:59	0,0260	Gan
906090029431307	000101220	1349366	2009-06-09 03:16:32	2009-06-09 05:48:21	0,0080	Gan
906090029431307	000110607	1349365	2009-06-09 00:29:45	2009-06-09 03:16:32	0,0050	Gan
905210107351303	000106510	1319305	2009-05-21 01:07:36	2009-05-21 03:37:37	0,0010	Gan
905200038001303	000106510	1317032	2009-05-20 00:38:02	2009-05-20 04:36:28	0,0010	Gan
905192059151303	000106510	1316878	2009-05-19 20:59:16	2009-05-19 23:51:31	0,0010	Gan
905190137331303	000106510	1314535	2009-05-19 01:37:34	2009-05-19 04:16:30	0,0010	Gan
905180019131315	000106510	1312255	2009-05-18 00:19:14	2009-05-18 03:44:50	0,0020	Gan
905162213251315	000106510	1311249	2009-05-16 22:13:28	2009-05-17 05:45:58	0,0020	Gan
905160002281304	000106510	1310124	2009-05-16 00:02:29	2009-05-16 06:10:33	0,0020	Gan
905150034371301	000106510	1308107	2009-05-15 00:39:02	2009-05-15 05:29:38	0,0270	Gan
905140132091315	000106510	1305581	2009-05-14 01:32:11	2009-05-14 02:56:26	0,0010	Gan
905130016191303	000102081	1303273	2009-05-13 00:25:39	2009-05-13 04:02:48	0,0410	Gan
905112325551303	000000035	1300652	2009-05-11 23:25:57	2009-05-12 01:07:29	0,0010	Gan
904130033191315	000100793	1223585	2009-04-13 00:33:20	2009-04-13 03:37:13	0,0100	Gan
904120051001315	000106510	1221640	2009-04-12 00:51:01	2009-04-12 06:12:51	0,0060	Gan

Record 43 of 58

Id	Time	EPD R.	Loc.	Compl.	EPD	Cont.
0	2009-06-09 23:32	Initialization	West Wall	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2009-06-09 23:39	Inner entry	P1.227	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	2009-06-10 04:16	Changing S...	N1.05	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	2009-06-10 05:46	Outer Exit	P1.233	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Record 1 of 4

Shift + click = Zoom in
Alt + click = Zoom out

Show /hide doserate Show /hide steps

Export PDF

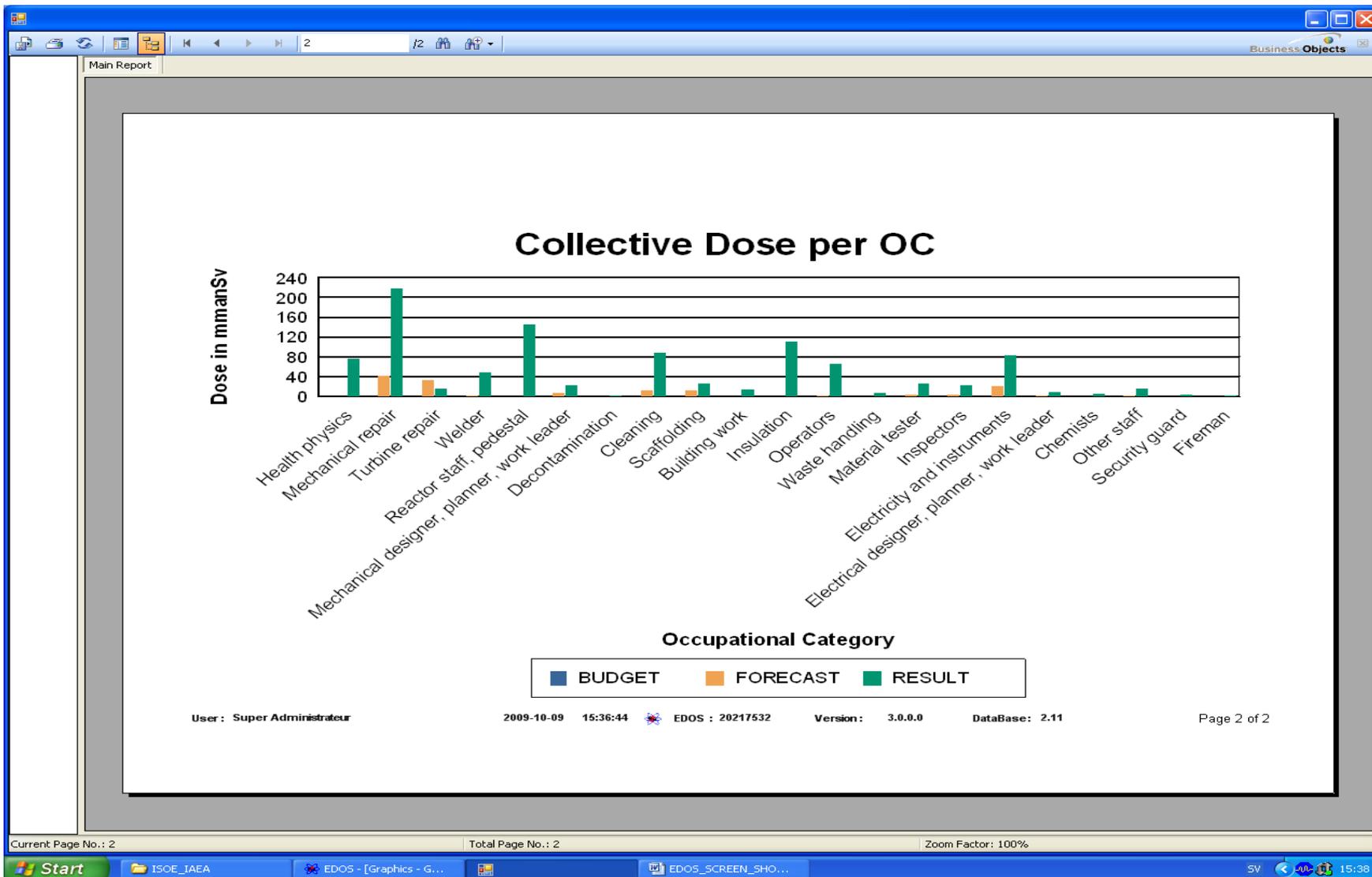
Type	D [mSv]	Dose	date	Data	Code

Record 0 of 0

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Start ISOE_IAEA EDOS - [EDOS Mainte... EDOS_SCREEN_SHO... SV 15:31

Graphic report



Follow up

- **Designated performers**
- **Follow up on daily, weekly and monthly basis**
 - **Alarms**
 - **Occupational categories**
 - **Selected jobs**
 - **Individuals**
- **Lower the dose – ALARA programme**
- **Limit the contamination**
- **Budget work**

Thank you for your attention!