

Module 07: Scheduling Activities (Model Answers)

Maintenance Work Management

A. Forecasting work hours **Activity 1**

Estimate
available
work hours

Use the worksheet on the next slide to illustrate the use of the availability forecast worksheet for a maintenance section working a 10-hour shift. B. Jones, supervisor of section A, has just received the availability forecast worksheet from Planning. The section consists of five people: one boilermaker, one semi-skilled helper, one electrician, one millwright and one apprentice boilermaker. Jones knows that nobody in the section will be in any training next week; however the electrician will be off for two days on leave. Jones considers the current work in progress. The boilermaker's current work order will not be finished today and needs about five hours next week to finish. The millwright has been working on a work order for the past two days and claims it will take five hours next week as well. The apprentice will finish one work order and start another work order today, which will also take about five hours next week to finish. The other section members should finish their current work today as well. Jones plans to have them start and finish a new assignment. With this information, Jones estimates the total carry-over of work to be five hours of boiler making, five hours of highly skilled millwright work, and five hours of lesser-skilled apprentice boilermaker work.

1. Start with a trade skill level listing for this specific section.
2. Enter all the quantities for the trades and the hours.
3. Finally, complete the totals line for each type of work hour.

Activity 2a

Sort the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration	Total Est Hours
001	N00	ZE	5	Ad hoc	1 boiler	35	35	35
002	N01	CP	2	Breakdown	1 app	10	10	10
003	N01	CV	4	FOL	1 elec	38	38	38
004	N01	FC	2	Breakdown	1 app 1 help	7 7	7	14
005	N01	CP	3	Usage-base	1 app 2 help	6 12	6	18
006	N01	FC	4	Ad-hoc	1 app 1 help	15 15	15	30
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20	40
008	N01	JX	4	FOL	1 elec	4	4	4
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2	4
010	N01	IF	4	FOL	1 appr 1 help	3 3	3	6
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10	20
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8	16
013	N01	IF	5	FOL	2 app	6	3	6

Scheduling rules

These are the four scheduling rules:

1. Group the work orders by priority.
2. Within each priority grouping, move the tactical work to before the non-tactical work.
3. Within each priority grouping and tactical / non-tactical group, rank by the size of the job (total estimated hours).
4. Across all priority groups, combine work orders that have the same location.

Sorting work orders (best answer)

Sort the work orders

01 02 03 04 05 06 07 08 09 10 11 12 13

Priority and total work hours

12 04 02 07 11 05 03 06 10 08 01 13 09

Sorting work orders (best answer)

Sort the work orders

- 01
- 02
- 03
- 04
- 05
- 06
- 07
- 08
- 09
- 10
- 11
- 12
- 13

Priority and total work hours

- 12
- 04
- 02
- 07
- 11
- 05
- 03
- 06
- 10
- 08
- 01
- 13
- 09

WO number	Unit	Location	Priority	Type of work	T ot NT
12	N01	BV	2	Breakdown	NT
4	N01	FC	2	Breakdown	NT
2	N01	CP	2	Breakdown	NT
7	N01	JC	3	Breakdown	NT
11	N01	CD	3	Ad-hoc	NT
5	N01	CP	3	Usage-base	T
3	N01	CV	4	FOL	T
6	N01	FC	4	Ad-hoc	NT
10	N01	IF	4	FOL	T
8	N01	JX	4	FOL	T
1	N00	ZE	5	Ad hoc	NT
13	N01	IF	5	FOL	T
9	N01	CP	5	Ad-hoc	NT

Sorting work orders (best answer)

Sort the work orders

Priority and total work hours

12

04

02

07

11

05

03

06

10

08

01

13

09

Tactical first in every priority group

12

04

02

05

07

11

03

10

08

06

13

01

09

Sorting work orders Activity 5

Sort the
work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
021	N02	BV	2	Breakdown	2 app FIT	6	3
022	N32	UA	4	FOL	2 app FIT	14	7
023	N00	FC	5	FOL	1 app BM 1 help	20 20	20
024	N00	JX	3	Usage-based	1 app FIT 1 help	20 20	20
025	N00	HC	3	Ad-hoc	1 app BM	17	17
026	N00	FC	3	Breakdown	1 boiler	3	3
027	N00	HD	3	Usage-based	1 fitter	2	2
028	N00	HP	2	Breakdown	1 fitter 1 help	8 7	8
029	N00	FW	5	FOL	2 help	12	6
030	N00	HD	5	Breakdown	1 millw 1 help	1 1	1
031	N02	DA	4	Design Improvement	1 millw 1 help	22 20	22
032	N02	ZE	4	FOL	1 help	40	40
033	N00	FC	3	FOL	1 fitter 1 app FIT	14 14	14
034	N00	FC	3	Ad-hoc	1 fitter 1 app FIT	6 5	6
035	N00	KD	2	Breakdown	1 app FIT	20	20
036	N00	FW	2	Breakdown	1 millw 2 help	6 12	6
037	N00	FC	3	Usage-based	1 millw 2 help	4 8	8
038	N31	UZ	3	Ad-hoc	1 app BM 1 help	3 3	3
039	N00	FC	3	Ad-hoc	1 boiler 1 help	2 2	2
040	N02	FD	4	Condition-based	1 boiler 1 help	10 10	10



Download the answer sheet from the LMS and join your breakout room to complete the activity on work order sorting.

Use your single-page decision tool to schedule the following work orders. The backlog belongs to Maintenance section A.

The table shows the plant backlog for section A listed by work order number. FOL = follow-up work (tactical).

Sorting work orders Activity 5 (model answer)

Sort the
work orders

Work Order	Priority	Tactical First	Est hours	Same Location
35	2	NT	20	KD
36	2	NT	18	FW
29	5	T	12	FW
28	2	NT	15	HP
41	2	NT	8	FC
33	3	T	28	FC
37	3	T	12	FC
34	3	NT	11	FC
39	3	NT	4	FC
26	3	NT	3	FC
23	5	T	40	FC
42	2	NT	7	FD

Work Order	Priority	Tactical First	Est hours	Same Location
40	4	T	20	FD
21	2	NT	6	BV
24	3	T	40	JX
27	3	T	2	HD
30	5	NT	2	HD
25	3	NT	17	HC
38	3	NT	6	UZ
44	5	T	2	UZ
31	4	T	42	DA
32	4	T	40	ZE
43	4	T	38	UA
22	4	T	14	UA

C. Assigning work orders

Assign the
work orders



The final step is to assign the work to each of the trades according to their availability:

- Work orders effectively planned and scoped cannot be split over multiple resources unless specifically planned that way.
- Apply the calculated available hours.
- Balance resources.
- Document assumptions.
- Consider options.

Assigning work orders: Activity 6

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
001	N00	ZE	5	Ad hoc	1 boiler	35	35
002	N01	CP	2	Breakdown	1 app BM	10	10
003	N01	CV	4	FOL	1 elec	38	38
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
008	N01	JX	4	FOL	1 elec	4	4
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
013	N01	IF	5	FOL	2 app	6	3

Use the work order assignment worksheet to combine the previous forecast for section A and previous backlog sorting for section A into a week's worth of work, the weekly schedule assignment.

Sorting work orders (best answer)

Assign the work orders

12

04

06

02

05

09

07

11

03

10

13

08

01

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35



Assign WO 012 to the boilermaker and helper.

Work Order Number	Hours Available	012	004	006	002	005	009	007	011	003	010	013	008	001
Millwright														
	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Boilermaker		8												
	35	27	27	27	27	27	27	27	27	27	27	27	27	27
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician														
	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Apprentice BM														
	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Helper		8												
	40	32	32	32	32	32	32	32	32	32	32	32	32	32

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35



Assign WO 004 to the apprentice boilermaker and the helper.

Work Order Number	Hours Available	012	004	006	002	005	009	007	011	003	010	013	008	001
Millwright														
	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Boilermaker		8												
	35	27	27	27	27	27	27	27	27	27	27	27	27	27
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician														
	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Apprentice BM			7											
	35	35	28	28	28	28	28	28	28	28	28	28	28	28
Helper		8	7											
	40	32	25	25	25	25	25	25	25	25	25	25	25	25

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35

Assign WO 006 to the apprentice boilermaker and the helper.

Work Order Number	Hours Available	012	004	006	002	005	009	007	011	003	010	013	008	001
Millwright														
	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Boilermaker		8												
	35	27	27	27	27	27	27	27	27	27	27	27	27	27
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician														
	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Apprentice BM			7	15										
	35	35	28	13	13	13	13	13	13	13	13	13	13	13
Helper		8	7	15										
	40	32	25	10	10	10	10	10	10	10	10	10	10	10

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35



Assign WO 002 to the apprentice boilermaker.

Work Order Number	Hours Available	012	004	006	002	005	009	007	011	003	010	013	008	001
Millwright														
	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Boilermaker		8												
	35	27	27	27	27	27	27	27	27	27	27	27	27	27
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician														
	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Apprentice BM			7	15	10									
	35	35	28	13	3	3	3	3	3	3	3	3	3	3
Helper		8	7	15										
	40	32	25	10	10	10	10	10	10	10	10	10	10	10

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35

WO 005 requires an apprentice boilermaker and two helpers. Neither trade has sufficient capacity – the boilermaker has the appropriate skill to complete the apprentice work and the work of one helper. (Work skilled person down – WSPD)



Work Order Number	Hours Available	012	004	006	002	005*	009	007	011	003	010	013	008	001
Millwright														
	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Boilermaker		8				12								
	35	27	27	27	27	15	15	15	15	15	15	15	15	15
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician														
	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Apprentice BM			7	15	10									
	35	35	28	13	3	3	3	3	3	3	3	3	3	3
Helper		8	7	15		6								
	40	32	25	10	10	4	4	4	4	4	4	4	4	4

Work Skilled
Person down

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35



Assign WO 009 to the millwright and helper.

Work Order Number	Hours Available	012	004	006	002	005*	009	007	011	003	010	013	008	001
Millwright							2							
	35	35	35	35	35	35	33	33	33	33	33	33	33	33
Boilermaker		8				12								
	35	27	27	27	27	15	15	15	15	15	15	15	15	15
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician														
	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Apprentice BM			7	15	10									
	35	35	28	13	3	3	3	3	3	3	3	3	3	3
Helper		8	7	15		6	2							
	40	32	25	10	10	4	2	2	2	2	2	2	2	2

Work Skilled
Person down

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35

WO 007 requires a millwright and a helper. The helper trade has insufficient capacity; the only trade with sufficient capacity is the electrician. (Work skilled person down – WSPD)

Work Order Number	Hours Available	012	004	006	002	005*	009	007*	011	003	010	013	008	001
Millwright							2	20						
	35	35	35	35	35	35	33	13	13	13	13	13	13	13
Boilermaker		8				12								
	35	27	27	27	27	15	15	15	15	15	15	15	15	15
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician								20						
	20	20	20	20	20	20	20	0	0	0	0	0	0	0
Apprentice BM			7	15	10									
	35	35	28	13	3	3	3	3	3	3	3	3	3	3
Helper		8	7	15		6	2							
	40	32	25	10	10	4	2	2	2	2	2	2	2	2

Work Skilled
Person down

Work Skilled
Person down

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 app BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35

Work Order Number	Hours Available	012	004	006	002	005*	009	007*	011*	003	010	013	008	001
Millwright							2	20	10					
	35	35	35	35	35	35	33	13	3	3	3	3	3	3
Boilermaker		8				12			10					
	35	27	27	27	27	15	15	15	5	5	5	5	5	5
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician								20						
	20	20	20	20	20	20	20	0	0	0	0	0	0	0
Apprentice BM			7	15	10									
	35	35	28	13	3	3	3	3	3	3	3	3	3	3
Helper		8	7	15		6	2							
	40	32	25	10	10	4	2	2	2	2	2	2	2	2

Work Skilled
Person down

Work Skilled
Person down

Work Skilled
Person down



WO 011 requires a millwright and a helper. The helper trade has insufficient capacity; the only trade with sufficient capacity is the boilermaker. (Work skilled person down – WSPD)

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35

Work Order Number	Hours Available	012	004	006	002	005*	009	007*	011*	003	010	013	008	001
Millwright							2	20	10					
	35	35	35	35	35	35	33	13	3	3	3	3	3	3
Boilermaker		8				12			10					
	35	27	27	27	27	15	15	15	5	5	5	5	5	5
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician								20						
	20	20	20	20	20	20	20	0	0	0	0	0	0	0
Apprentice BM			7	15	10									
	35	35	28	13	3	3	3	3	3	3	3	3	3	3
Helper		8	7	15		6	2							
	40	32	25	10	10	4	2	2	2	2	2	2	2	2

Work Skilled
Person down

Work Skilled
Person down

Work Skilled
Person down

Reschedule



WO 003 requires an electrician. The electrician trade has insufficient capacity; there are no trades with sufficient capacity. Reschedule the work.

Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 app BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35

Work Order Number	Hours Available	012	004	006	002	005*	009	007*	011*	003	010	013	008	001
Millwright							2	20	10					
	35	35	35	35	35	35	33	13	3	3	3	3	3	3
Boilermaker		8				12			10		3			
	35	27	27	27	27	15	15	15	5	5	2	2	2	2
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician								20						
	20	20	20	20	20	20	20	0	0	0	0	0	0	0
Apprentice BM			7	15	10						3			
	35	35	28	13	3	3	3	3	3	3	0	0	0	0
Helper		8	7	15		6	2							
	40	32	25	10	10	4	2	2	2	2	2	2	2	2

Work Skilled
Person down

Work Skilled
Person down

Work Skilled
Person down

Reschedule

Work Skilled
Person down

WO 010 requires an apprentice boilermaker and a helper. The helper trade has insufficient capacity – the boilermaker has the lowest appropriate skill to complete the helper's work. (Work skilled person down – WSPD)



Assign work orders

Assign the work orders

WO number	Unit	Location	Priority	Type of work	Trade	Estimate hours	Estimate duration
012	N01	BV	2	Breakdown	1 boiler 1 help	8 8	8
004	N01	FC	2	Breakdown	1 app BM 1 help	7 7	7
006	N01	FC	4	Ad-hoc	1 app BM 1 help	15 15	15
002	N01	CP	2	Breakdown	1 app BM	10	10
005	N01	CP	3	Usage-base	1 app BM 2 help	6 12	6
009	N01	CP	5	Ad-hoc	1 millw 1 help	2 2	2
007	N01	JC	3	Breakdown	1 millw 1 help	20 20	20
011	N01	CD	3	Ad-hoc	1 millw 1 help	10 10	10
003	N01	CV	4	FOL	1 elec	38	38
010	N01	IF	4	FOL	1 appr BM 1 help	3 3	3
013	N01	IF	5	FOL	2 app	6	3
008	N01	JX	4	FOL	1 elec	4	4
001	N00	ZE	5	Ad hoc	1 boiler	35	35

Work Order Number	Hours Available	012	004	006	002	005*	009	007*	011*	003	010	013	008	001
Millwright							2	20	10					
	35	35	35	35	35	35	33	13	3	3	3	3	3	3
Boilermaker		8				12			10		3			
	35	27	27	27	27	15	15	15	5	5	2	2	2	2
Fitter														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrician								20						
	20	20	20	20	20	20	20	0	0	0	0	0	0	0
Apprentice BM			7	15	10						3			
	35	35	28	13	3	3	3	3	3	3	0	0	0	0
Helper		8	7	15		6	2							
	40	32	25	10	10	4	2	2	2	2	2	2	2	2

Work Skilled
Person down

Work Skilled
Person down

Work Skilled
Person down

Reschedule

Work Skilled
Person down

Reschedule

Reschedule

Reschedule



WO 013, 008 and 001 require more trade hours than any of the trades have the capacity for. All three work orders must be rescheduled.