

Hunter River Salinity Trading Scheme Credit

Auction Information

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Auction information, processes and rules

The NSW Environment Protection Authority (EPA) auctions 200 new Hunter River Salinity Trading Scheme (HRSTS) credits every two years. This factsheet outlines some general information and sets out the rules that apply to the auction process.

What is the Hunter River Salinity Trading Scheme?

The HRSTS was introduced to reduce salinity in the Hunter River. The scheme ensures that Hunter River salinity targets are not exceeded due to saline discharges from facilities with Environment Protection Licences, such as coal mines and power stations.

Participants may only discharge when the river is in 'high' or 'flood' flow and they must hold sufficient credits (in accordance with the scheme rules) to cover the volume of saline water they wish to discharge. If a participant wishes to discharge more than their credit holding permits, they may acquire credits from others who do not need to discharge into a particular discharge event. More detailed information can be found on the HRSTS website at: <http://www.epa.nsw.gov.au/licensing/hrsts/index.htm>

The HRSTS is an innovative economic instrument that has significantly reduced salinity in the Hunter River during a time of considerable industrial growth in the Hunter catchment. This scheme allows agriculture, mining and electricity generation to operate side by side, sharing the use of the Hunter River.

The HRSTS was formalised on 1 December 2002, via the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002* (the Regulation). Under the Regulation, the NSW Government must auction 200 new salinity credits every two years to replace those that are about to expire. The first auction was held on 7 April 2004. Auctions ensure that new participants are given access to credits and provide an on-going incentive for industry to invest in strategies that reduce their need to discharge saline water.

What is a credit?

Each credit entitles the credit holder to discharge one thousandth of the total discharge of salt that is allowed to be discharged into a high flow block of water that is flowing down the Hunter River.

What is the life of a credit?

Credits have a 10-year life. For example, credits auctioned in May 2018 will commence on 1 July 2018 and expire at midnight on 30 June 2028, regardless of whether they are sold at the auction or retained by the EPA.

Potential bidders should note that anyone who purchases credits at these auctions will be obliged to contribute to the costs of running the scheme in accordance with the Regulation.

Why have an auction?

The auction process is designed to:

- a. distribute credits to those who value them most;
- b. provide equal access for all bidders, including new entrants to the market; and
- c. clear all 200 credits (so the NSW Government, as much as possible, is not left with any credits at the end of the auction).

How will the auction work?

The EPA will use a web-based auction program developed by the University of Melbourne and hosted on an independent website to auction 200 credits. The auction uses a Vickrey auction format. A worked example is provided at the end of this document.

As with all auctions, bidders will need to determine the value of credits to their businesses prior to the auction.

Bidders bid only once in the auction. They submit a bid schedule, indicating the number of credits that they would like, and for each credit the maximum amount that they are willing to pay. The amount that they pay for each credit that they win will be no more than this, and may be less.

Bidders are unable to see other bids. The EPA will maintain bidder confidentiality throughout the auction process and reporting of results, subject to the limitations of the law.

A 'help-desk' will be available on the day of the auction (09:00 hours to 18:00 hours Eastern Standard Time (EST)) should there be any issues with using the auction program.

What rules apply during the auction?

Bidders must comply with the following rules:

1. Anyone that wishes to bid on the day of the auction must first register as a bidder with the EPA by completing and submitting a [bidder registration form](#).
2. A person cannot register to bid for credits for more than one person or legal entity. Each person may only bid for credits for themselves or the company that they have registered to represent.
3. Auction participants who do not hold a NSW Environment Protection Licence must provide the original of a bank guarantee for the amount of the intended maximum bid price. Bank guarantees are to be made out to the EPA and have an expiry date of 31 July of the year of the auction.
4. Successful bidders must pay the value of the highest losing bid. A bidder who wins five credits, for example, will pay the value of the five highest losing bids. Losing bids submitted by this bidder are excluded from this calculation.
5. The minimum starting bid is \$250.00.
6. Each bidder may lodge one bid only for multiple numbers of credits according to the following rules:
 - a. Bids must be lodged on the auction web-site within the set time period.
 - b. All bids must state the number of credits the bidder wants and the maximum price they will pay for each credit, also known as a 'bid schedule' (for example, 10 credits at \$500 each, 5 credits at \$300 each, 2 credits at \$250 each), noting that a total of 200 credits are available at auction.
 - c. Bids must be in whole credits and may range from 1 to 200 credits. There is no cap on the number of credits a single bidder can purchase, again noting that only 200 credits are available.
 - d. If the EPA has required a bank guarantee or bond at the registration stage, then bidders cannot bid beyond this amount. In the case of tied bids, the winner will be determined randomly.
 - e. Bids must be in whole dollars.
 - f. All bids must be genuine and cannot be withdrawn or changed once submitted on the website.
7. The auction will have a time limit of nine hours, running from 09:00 hours to 18:00 hours (EST).

How do I access the auction website?

The EPA will give each registered bidder a log-in identification number and secure password following successful registration.

What happens after the auction?

After the auction the EPA issues a tax invoice to successful bidders, who will have 30 days to settle their accounts. All successful bids must be paid. All credit prices will include Goods and Services Tax (GST). The EPA will remit the appropriate amount of GST to the Australian Taxation Office.

After the auction, all successful bidders must ensure that they are registered on the scheme's credit register as credit traders. Under the Regulation, credits may only be transferred from the NSW Government to a registered credit trader. The EPA will adjust the credit register once all successful bidders have settled their accounts.

The EPA will prepare a report after each auction and place it on the HRSTS website. As a minimum the report will include:

- a. the allocation of the 200 new credits at the end of the auction and on settlement;
- b. the name of any defaulters;
- c. the auction-related costs; and
- d. any recommendations for the next auction, including auction design amendments.

What happens to the auction proceeds?

The EPA uses the auction proceeds to pay the auction costs. Any additional funds are used to offset the costs of the HRSTS. This reduces the annual contributions paid by scheme participants. If the auction proceeds are less than the auction costs, the shortfall is added to the HRSTS costs and recovered from participants via their biannual contribution.

What if a bidder defaults?

If a successful bidder does not settle their account by the due date, the EPA has the following courses of action available to it:

1. Pursue the default through legal processes
2. Publish the defaulter's name in the auction report, which will be published on the HRSTS website; and/or
3. Require a bond or bank guarantee for the next auction.

What happens to credits that are not sold at the auction – residual credits?

The EPA will offer any residual credits for sale (any credits that are not sold after successful bids have been settled), at the highest settled price from the auction. This will ensure that credits cannot be undervalued by subsequent sales. The EPA will sell residual credits at this price on a first-come-first-served basis up until six months before the next auction.

Any credits that the EPA still holds at that time will be auctioned at the next auction with the next batch of 200 new credits. It should be noted that the life of the credit is 10-years starting 1 July from the year it is first offered at auction and is not affected by when the credit is transferred from the EPA to the new owner.

Worked Example of the Credit Allocation Process

Bid Schedules

Table 1 provides fictional bid schedules for a fictional HRSTS credit auction.

Bidder ID	Quantity	Maximum \$ Per Unit	Total number of bids sought	Total Amount willing to pay
101	3	10,861.00		
101	7	6,294.00	10	76,641.00
102	5	7,857.00	11	
102	6	2,387.00		53,607.00
103	3	13,983.00		
103	7	13,523.00		
103	3	6,460.00		
103	4	2,925.00	17	167,690.00
104	5	11,591.00		
104	11	6,049.00	16	124,494.00
105	5	14,021.00		
105	6	13,379.00		
105	2	12,126.00		
105	8	11,304.00		
105	3	10,607.00		
105	2	8,629.00		
105	7	6,586.00		
105	5	5,793.00		
105	5	2,319.00		
105	6	1,663.00	49	410,782.00
106	10	13,596.00		
106	9	13,596.00		
106	6	13,355.00		
106	4	11,676.00		
106	2	10,425.00		
106	5	10,300.00		
106	10	9,384.00		
106	2	7,305.00		
106	10	4,989.00		
106	7	3,879.00		
106	3	3,084.00	68	652,253.00
107	6	8,867.00		
107	4	8,652.00		
107	7	6,260.00		
107	5	5,798.00	22	160,620.00
108	5	13,571.00		
108	11	12,472.00		
108	4	9,579.00		
108	2	9,307.00		
108	4	8,446.00		
108	4	8,054.00		
108	2	4,620.00	32	337,217.00
TOTAL			225	1,983,304.00

Note that the total number of credits sought exceeds the total number of credits available.

Ordering of Individual Bid Values

Table 2 shows the individual bid values in order from highest value to lowest. It also indicates where the 'highest losing bid' occurs.

Credit	Bidder ID	Maximum \$ Per Unit		Credit	Bidder ID	Maximum \$ Per Unit
1	105	14,021.00		40	105	13,379.00
2	105	14,021.00		41	105	13,379.00
3	105	14,021.00		42	105	13,379.00
4	105	14,021.00		43	105	13,379.00
5	105	14,021.00		44	105	13,379.00
6	103	13,983.00		45	105	13,379.00
7	103	13,983.00		46	106	13,355.00
8	103	13,983.00		47	106	13,355.00
9	106	13,596.00		48	106	13,355.00
10	106	13,596.00		49	106	13,355.00
11	106	13,596.00		50	106	13,355.00
12	106	13,596.00		51	106	13,355.00
13	106	13,596.00		52	108	12,472.00
14	106	13,596.00		53	108	12,472.00
15	106	13,596.00		54	108	12,472.00
16	106	13,596.00		55	108	12,472.00
17	106	13,596.00		56	108	12,472.00
18	106	13,596.00		57	108	12,472.00
19	106	13,596.00		58	108	12,472.00
20	106	13,596.00		59	108	12,472.00
21	106	13,596.00		60	108	12,472.00
22	106	13,596.00		61	108	12,472.00
23	106	13,596.00		62	108	12,472.00
24	106	13,596.00		63	105	12,126.00
25	106	13,596.00		64	105	12,126.00
26	106	13,596.00		65	106	11,676.00
27	106	13,596.00		66	106	11,676.00
28	108	13,571.00		67	106	11,676.00
29	108	13,571.00		68	106	11,676.00
30	108	13,571.00		69	104	11,591.00
31	108	13,571.00		70	104	11,591.00
32	108	13,571.00		71	104	11,591.00
33	103	13,523.00		72	104	11,591.00
34	103	13,523.00		73	104	11,591.00
35	103	13,523.00		74	105	11,304.00
36	103	13,523.00		75	105	11,304.00
37	103	13,523.00		76	105	11,304.00
38	103	13,523.00		77	105	11,304.00
39	103	13,523.00		78	105	11,304.00

Credit	Bidder ID	Maximum \$ Per Unit		Credit	Bidder ID	Maximum \$ Per Unit
79	105	11,304.00		122	105	8,629.00
80	105	11,304.00		123	108	8,446.00
81	105	11,304.00		124	108	8,446.00
82	101	10,861.00		125	108	8,446.00
83	101	10,861.00		126	108	8,446.00
84	101	10,861.00		127	108	8,054.00
85	105	10,607.00		128	108	8,054.00
86	105	10,607.00		129	108	8,054.00
87	105	10,607.00		130	108	8,054.00
88	106	10,425.00		131	102	7,857.00
89	106	10,425.00		132	102	7,857.00
90	106	10,300.00		133	102	7,857.00
91	106	10,300.00		134	102	7,857.00
92	106	10,300.00		135	102	7,857.00
93	106	10,300.00		136	106	7,305.00
94	106	10,300.00		137	106	7,305.00
95	108	9,579.00		138	105	6,586.00
96	108	9,579.00		139	105	6,586.00
97	108	9,579.00		140	105	6,586.00
98	108	9,579.00		141	105	6,586.00
99	106	9,384.00		142	105	6,586.00
100	106	9,384.00		143	105	6,586.00
101	106	9,384.00		144	105	6,586.00
102	106	9,384.00		145	103	6,460.00
103	106	9,384.00		146	103	6,460.00
104	106	9,384.00		147	103	6,460.00
105	106	9,384.00		148	101	6,294.00
106	106	9,384.00		149	101	6,294.00
107	106	9,384.00		150	101	6,294.00
108	106	9,384.00		151	101	6,294.00
109	108	9,307.00		152	101	6,294.00
110	108	9,307.00		153	101	6,294.00
111	107	8,867.00		154	101	6,294.00
112	107	8,867.00		155	107	6,260.00
113	107	8,867.00		156	107	6,260.00
114	107	8,867.00		157	107	6,260.00
115	107	8,867.00		158	107	6,260.00
116	107	8,867.00		159	107	6,260.00
117	107	8,652.00		160	107	6,260.00
118	107	8,652.00		161	107	6,260.00
119	107	8,652.00		162	104	6,049.00
120	107	8,652.00		163	104	6,049.00
121	105	8,629.00		164	104	6,049.00

Credit	Bidder ID	Maximum \$ Per Unit		Credit	Bidder ID	Maximum \$ Per Unit
165	104	6,049.00		208	103	2,925.00
166	104	6,049.00		209	102	2,387.00
167	104	6,049.00		210	102	2,387.00
168	104	6,049.00		211	102	2,387.00
169	104	6,049.00		212	102	2,387.00
170	104	6,049.00		213	102	2,387.00
171	104	6,049.00		214	102	2,387.00
172	104	6,049.00		215	105	2,319.00
173	107	5,798.00		216	105	2,319.00
174	107	5,798.00		217	105	2,319.00
175	107	5,798.00		218	105	2,319.00
176	107	5,798.00		219	105	2,319.00
177	107	5,798.00		220	105	1,663.00
178	105	5,793.00		221	105	1,663.00
179	105	5,793.00		222	105	1,663.00
180	105	5,793.00		223	105	1,663.00
181	105	5,793.00		224	105	1,663.00
182	105	5,793.00		225	105	1,663.00
183	106	4,989.00				
184	106	4,989.00				
185	106	4,989.00				
186	106	4,989.00				
187	106	4,989.00				
188	106	4,989.00				
189	106	4,989.00				
190	106	4,989.00				
191	106	4,989.00				
192	106	4,989.00				
193	108	4,620.00				
194	108	4,620.00				
195	106	3,879.00				
196	106	3,879.00				
197	106	3,879.00				
198	106	3,879.00				
199	106	3,879.00				
200	106	3,879.00				
201	106	3,879.00		Highest losing bid		
202	106	3,084.00				
203	106	3,084.00				
204	106	3,084.00				
205	103	2,925.00				
206	103	2,925.00				
207	103	2,925.00				

Bidder 103 and 105 Allocations and Payment Calculations

Table 3 identifies the allocation and associated payment for Bidder 103 bid schedule.

Bidder 103 (highlighted in orange) was allocated 13 credits of the 17 sought. Four bids were below the highest losing bid.

To calculate the amount to be paid, proceed to the highest losing bid in Table 3 and sum the bid values from credit 201 onwards, excluding any bids made by Bidder 103 for the price calculation. The amount to be paid is the sum of the values shown as **bolded blue** (ie credit 201-204 inclusive and 209-217 inclusive). Hence Bidder 103 is allocated 13 credits for the total price of \$34,410.

Another example is given for Bidder 105 (highlighted in green) who was allocated 38 credits for the total price of \$63,153. The allocation is carried out in the same manner. However, the difference is that for some of the credits, the reserve price is applied. In this fictional auction, the reserve price is set at \$1,000. So Bidder 105 obtained 14 credits at bid prices set for credits 201-214 inclusive and the remaining 24 credits (to make up 38 successful bid values) were paid at reserve price of \$1,000 per credit.

Table 3

Credit	Bidder ID	Maximum \$ Per Unit	Credit	Bidder ID	Maximum \$ Per Unit
1	105	14,021.00	32	108	13,571.00
2	105	14,021.00	33	103	13,523.00
3	105	14,021.00	34	103	13,523.00
4	105	14,021.00	35	103	13,523.00
5	105	14,021.00	36	103	13,523.00
6	103	13,983.00	37	103	13,523.00
7	103	13,983.00	38	103	13,523.00
8	103	13,983.00	39	103	13,523.00
9	106	13,596.00	40	105	13,379.00
10	106	13,596.00	41	105	13,379.00
11	106	13,596.00	42	105	13,379.00
12	106	13,596.00	43	105	13,379.00
13	106	13,596.00	44	105	13,379.00
14	106	13,596.00	45	105	13,379.00
15	106	13,596.00	46	106	13,355.00
16	106	13,596.00	47	106	13,355.00
17	106	13,596.00	48	106	13,355.00
18	106	13,596.00	49	106	13,355.00
19	106	13,596.00	50	106	13,355.00
20	106	13,596.00	51	106	13,355.00
21	106	13,596.00	52	108	12,472.00
22	106	13,596.00	53	108	12,472.00
23	106	13,596.00	54	108	12,472.00
24	106	13,596.00	55	108	12,472.00
25	106	13,596.00	56	108	12,472.00
26	106	13,596.00	57	108	12,472.00
27	106	13,596.00	58	108	12,472.00
28	108	13,571.00	59	108	12,472.00
29	108	13,571.00	60	108	12,472.00
30	108	13,571.00	61	108	12,472.00
31	108	13,571.00	62	108	12,472.00

Credit	Bidder ID	Maximum \$ Per Unit	Credit	Bidder ID	Maximum \$ Per Unit
63	105	12,126.00	106	106	9,384.00
64	105	12,126.00	107	106	9,384.00
65	106	11,676.00	108	106	9,384.00
66	106	11,676.00	109	108	9,307.00
67	106	11,676.00	110	108	9,307.00
68	106	11,676.00	111	107	8,867.00
69	104	11,591.00	112	107	8,867.00
70	104	11,591.00	113	107	8,867.00
71	104	11,591.00	114	107	8,867.00
72	104	11,591.00	115	107	8,867.00
73	104	11,591.00	116	107	8,867.00
74	105	11,304.00	117	107	8,652.00
75	105	11,304.00	118	107	8,652.00
76	105	11,304.00	119	107	8,652.00
77	105	11,304.00	120	107	8,652.00
78	105	11,304.00	121	105	8,629.00
79	105	11,304.00	122	105	8,629.00
80	105	11,304.00	123	108	8,446.00
81	105	11,304.00	124	108	8,446.00
82	101	10,861.00	125	108	8,446.00
83	101	10,861.00	126	108	8,446.00
84	101	10,861.00	127	108	8,054.00
85	105	10,607.00	128	108	8,054.00
86	105	10,607.00	129	108	8,054.00
87	105	10,607.00	130	108	8,054.00
88	106	10,425.00	131	102	7,857.00
89	106	10,425.00	132	102	7,857.00
90	106	10,300.00	133	102	7,857.00
91	106	10,300.00	134	102	7,857.00
92	106	10,300.00	135	102	7,857.00
93	106	10,300.00	136	106	7,305.00
94	106	10,300.00	137	106	7,305.00
95	108	9,579.00	138	105	6,586.00
96	108	9,579.00	139	105	6,586.00
97	108	9,579.00	140	105	6,586.00
98	108	9,579.00	141	105	6,586.00
99	106	9,384.00	142	105	6,586.00
100	106	9,384.00	143	105	6,586.00
101	106	9,384.00	144	105	6,586.00
102	106	9,384.00	145	103	6,460.00
103	106	9,384.00	146	103	6,460.00
104	106	9,384.00	147	103	6,460.00
105	106	9,384.00	148	101	6,294.00

Credit	Bidder ID	Maximum \$ Per Unit	Credit	Bidder ID	Maximum \$ Per Unit
149	101	6,294.00	192	106	4,989.00
150	101	6,294.00	193	108	4,620.00
151	101	6,294.00	194	108	4,620.00
152	101	6,294.00	195	106	3,879.00
153	101	6,294.00	196	106	3,879.00
154	101	6,294.00	197	106	3,879.00
155	107	6,260.00	198	106	3,879.00
156	107	6,260.00	199	106	3,879.00
157	107	6,260.00	200	106	3,879.00
158	107	6,260.00	201	106	Highest losing bid 3,879.00
159	107	6,260.00	202	106	3,084.00
160	107	6,260.00	203	106	3,084.00
161	107	6,260.00	204	106	3,084.00
162	104	6,049.00	205	103	2,925.00
163	104	6,049.00	206	103	2,925.00
164	104	6,049.00	207	103	2,925.00
165	104	6,049.00	208	103	2,925.00
166	104	6,049.00	209	102	2,387.00
167	104	6,049.00	210	102	2,387.00
168	104	6,049.00	211	102	2,387.00
169	104	6,049.00	212	102	2,387.00
170	104	6,049.00	213	102	2,387.00
171	104	6,049.00	214	102	2,387.00
172	104	6,049.00	215	105	2,319.00
173	107	5,798.00	216	105	2,319.00
174	107	5,798.00	217	105	2,319.00
175	107	5,798.00	218	105	2,319.00
176	107	5,798.00	219	105	2,319.00
177	107	5,798.00	220	105	1,663.00
178	105	5,793.00	221	105	1,663.00
179	105	5,793.00	222	105	1,663.00
180	105	5,793.00	223	105	1,663.00
181	105	5,793.00	224	105	1,663.00
182	105	5,793.00	225	105	1,663.00
183	106	4,989.00	226	Reserve	1,000
184	106	4,989.00	227	Reserve	1,000
185	106	4,989.00	228	Reserve	1,000
186	106	4,989.00	229	Reserve	1,000
187	106	4,989.00	230	Reserve	1,000
188	106	4,989.00	231	Reserve	1,000
189	106	4,989.00	232	Reserve	1,000
190	106	4,989.00	233	Reserve	1,000
191	106	4,989.00	234	Reserve	1,000

Overall Fictional Auction Outcome Summary

Table 4 gives the allocations for all eight bidders in the fictional auction.

Three bidders had some of their units allocated at the minimum (or reserve) bid price, because the available losing bids were exhausted before all of their units to be allocated could be priced.

Table 4

Bidder ID	Number of Units Allocated	Total Payment Amount (\$)	Amount Paid at the Minimum (or reserve) Bid Price (\$)
101	10	29,605	0
102	5	16,056	0
103	13	34,410	0
104	16	43,791	0
105	38	63,153	24,000
106	64	90,595	43,000
107	22	55,737	0
108	32	67,726	7,000
TOTAL	200	401,073	74,000

