

MSA Compliance Review 2022

February 17, 2023

Taking action to promote effective competition and a culture of compliance and accountability in Alberta's electricity and retail natural gas markets

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EXECUTIVE SUMMARY

The Market Surveillance Administrator (MSA) is a public agency established under the *Alberta Utilities Commission Act* (AUCA) whose mandate includes surveillance, investigation, and enforcement in respect of the Alberta electricity markets.

This Compliance Review 2022 is provided pursuant to section 23(2) of the *Transmission Regulation* for the calendar year 2022. The MSA will continue to provide public updates regarding its compliance activities in its routine public reporting.

Promotion of compliance and accountability

The MSA's activities benefit Albertans by ensuring the Alberta electricity markets are competitive and that there is a well-functioning and dependable electricity sector. Through these activities, the MSA contributes to the reliability, efficiency, and competitiveness of the Alberta electricity markets and promotes a culture of compliance and accountability.

ISO rules and Alberta Reliability Standards

Rules are established in Alberta by the Independent System Operator (ISO), operating as the Alberta Electric System Operator (AESO), in consultation with market participants and submitted to the Alberta Utilities Commission (AUC) for approval (ISO rules). The purpose of ISO rules is to promote orderly and predictable actions and to facilitate the operation of the Alberta interconnected electric system (AIES) and associated markets.

As set out in the *Transmission Regulation*, the AESO, in consultation with the electricity industry, reviews North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) standards to assess and recommend to the AUC whether or not those standards are applicable to Alberta. If approved, these standards become Alberta Reliability Standards (ARS), and the AESO and market participants must comply with ARS, as applicable. ARS are comprised of Operations and Planning (O&P) and Critical Infrastructure Protection (CIP) standards.

The purpose of ARS is to ensure that the AESO and those market participants involved in grid operations in Alberta (e.g., owners and operators of generating units, distribution systems and transmission facilities) are appropriately implementing procedures, communication, coordination, training, and maintenance, among other practices, to support the reliability of the AIES. Given the scope of the AESO's responsibilities, the majority of ARS apply to the AESO, and a smaller (but in some cases overlapping) fraction of ARS apply to both market participants and the AESO.

Enforcement framework

The AESO has a mandate to conduct compliance monitoring of market participants. The AESO applies its technical and operational expertise to identify suspected contraventions of ISO rules and ARS by market participants and refers these to the MSA. The AESO also self-reports its own suspected contraventions of ISO rules and ARS to the MSA.

The MSA Compliance Process encourages the self-reporting of non-compliance with ISO rules and ARS with the prospect of favourable treatment, including forbearance or reduced penalties, in order to promote self-monitoring and robust compliance programs.

After reviewing self-reported and referred matters, the MSA determines the appropriate disposition in accordance with the MSA Compliance Process. The MSA may impose a specified penalty where appropriate, in accordance with AUC Rules 019 for contraventions of ISO rules and 027 for contraventions of ARS. If a person disputes a notice of specified penalty, the matter is adjudicated following a hearing before the AUC. The MSA may also forbear if the circumstances warrant. The MSA may enter into a settlement agreement concerning a contravention, which is subject to AUC approval. Alternatively, the MSA may request a hearing before the AUC, in which case the AUC determines whether a contravention has occurred and, if a contravention is found, the appropriate penalty.

2022 Outcomes

In 2022, the overall number of ISO rules matters received and addressed decreased compared to 2021.¹ Self-reported matters from market participants continued to represent a large majority of the matters assessed, indicating that market participants continue to actively monitor for and self-disclose non-compliance. The distribution of contraventions across ISO rules was broadly similar to previous years, with ISO rules that govern the most frequent day-to-day market activities accounting for the majority of matters. More than half of the matters addressed with notices of specified penalty were for first contraventions within a 12-month period, which suggests that there were few persistent compliance problems with ISO rules.

The number of ARS matters received and addressed by the MSA in 2022 was lower than in 2021. CIP ARS matters continue to represent a majority of ARS matters. The MSA continues to monitor these matters closely and to promote appropriate mitigation activities.

¹ A matter is considered addressed once a disposition has been issued. Accordingly, a matter is not always addressed in the same year that it was received by the MSA or that the associated conduct occurred.

2022 NUMBERS AT A GLANCE

- 372 ISO rules matters were addressed in 2022, down from 462 matters addressed in 2021.
- 91 ISO rules matters were addressed with notices of specified penalty for contraventions of ISO rules, totalling \$143,500 in financial penalties. No specified penalties were disputed or unpaid.
- Self-reporting accounted for 87% of ISO rules matters addressed in 2022, down from 91% in 2021.
- 80 O&P ARS matters were addressed in 2022, with 80 matters also addressed in 2021.
- Seven O&P ARS matters were addressed with notices of specified penalty, totalling \$33,375 in financial penalties. No specified penalties were disputed or unpaid.
- 243 CIP ARS matters were addressed in 2022, down from 294 matters addressed in 2021.
- 35 CIP ARS matters were addressed with notices of specified penalty, totalling \$91,625 in financial penalties. No specified penalties were disputed or unpaid.
- Self-reporting accounted for 76% of total ARS matters addressed in 2022, up from 72% in 2021.

1 INTRODUCTION

The MSA has a broad mandate of surveillance, investigation, and enforcement in respect of the Alberta electricity markets. Through enforcement of ISO rules and ARS, the MSA contributes to the reliability and competitiveness of the AIES and promotes a culture of compliance and accountability among the AESO and market participants.

Market participants play a crucial role in promoting compliance; as such, the MSA encourages market participants to self-report instances of non-compliance. When self-reporting, market participants may seek forbearance by the MSA, which the MSA may grant if the circumstances warrant.

The MSA works collaboratively with the AESO and WECC regarding compliance issues, including the referral of suspected contraventions to the MSA. These entities also provide the MSA with subject matter expertise and technical assessments for matters under consideration, upon MSA request. This collaboration continues to pay dividends, ensuring rigorous enforcement decisions are made by the MSA.

The MSA Compliance Process sets out how compliance enforcement of ISO rules and ARS is performed within the mandate of the MSA. The MSA continuously evaluates its processes in light of industry and regulatory developments, with a view to identifying efficiencies and making improvements.

2 ALBERTA UTILITIES COMMISSION RULES DEVELOPMENTS

The AUC rules governing the MSA's application of specified penalties for contraventions of ISO rules and ARS are, respectively, Rule 019 and Rule 027. Since the publication of MSA Compliance Review 2021, Rule 027 was revised. Effective July 1, 2022, CIP-012-AB-1 *Communications between Control Centres* was added to Rule 027.²

3 ISO RULES

3.1 Activity levels

In 2022, the MSA addressed 372 ISO rules matters and had 63 matters unresolved at the end of the year. Of the 372 matters, 91 (24%) resulted in a notice of specified penalty, 271 (73%) resulted in forbearance by the MSA, 9 (2%) were issued a no contravention disposition, and 1 (<1%) was referred to the AUC.³ Apart from one referred matter, no matters were brought before the AUC for a hearing or other proceeding, and none of the notices of specified penalty were disputed or remained unpaid at the time of publication of this review.

² AUC [Bulletin 2022-09](#) (June 29, 2022).

³ The MSA may issue a no contravention disposition when the specific conduct at issue has not contravened the requirements of the ISO rules or meets a specific compliance exception outlined in the ISO rules. None of the no contravention outcomes in 2022 were the result of a difference in interpretation with AESO referral findings.

Figure 1 indicates the number of ISO rules matters received in 2022 was lower than last year, and a downward trend is observed over a three-year period. Variation in self-reporting can be attributed to market participants entering the market, changes to ISO rules, or persistent compliance issues. The number of unresolved matters at the end of 2022 was 63, similar to 56 in 2021, which was the lowest in the past five years, as demonstrated in Figure 2.

Figure 1: ISO rules compliance matters received

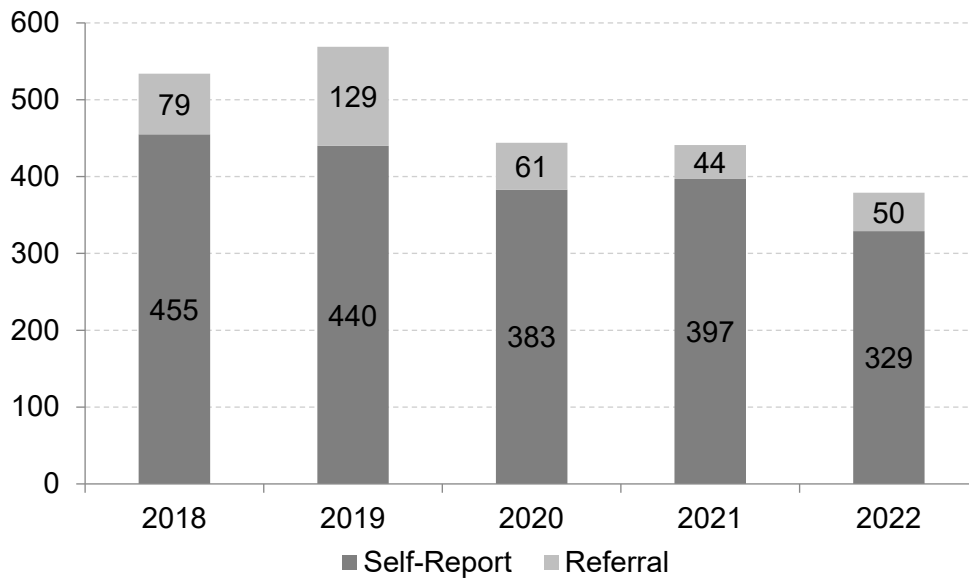
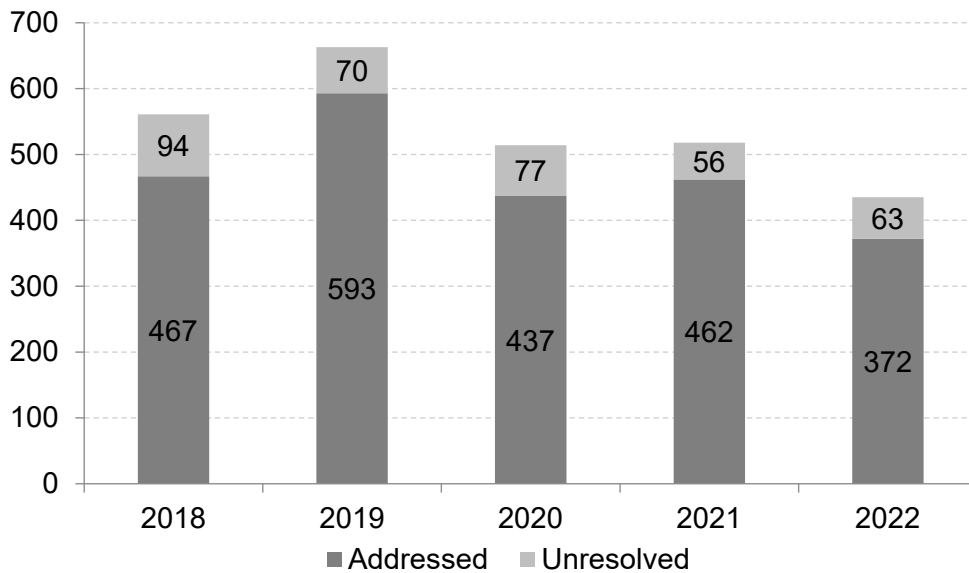
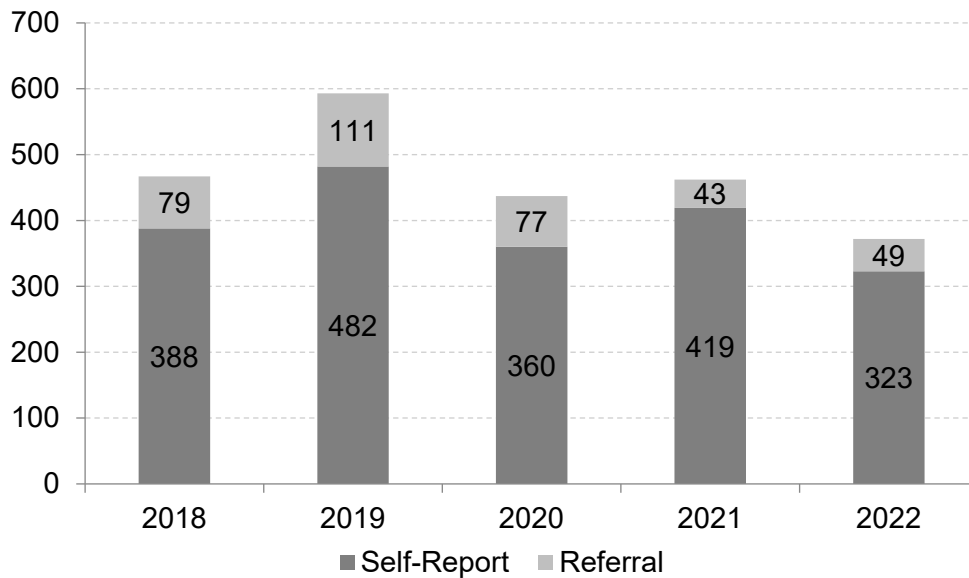


Figure 2: ISO rules matters addressed or unresolved at the end of the year



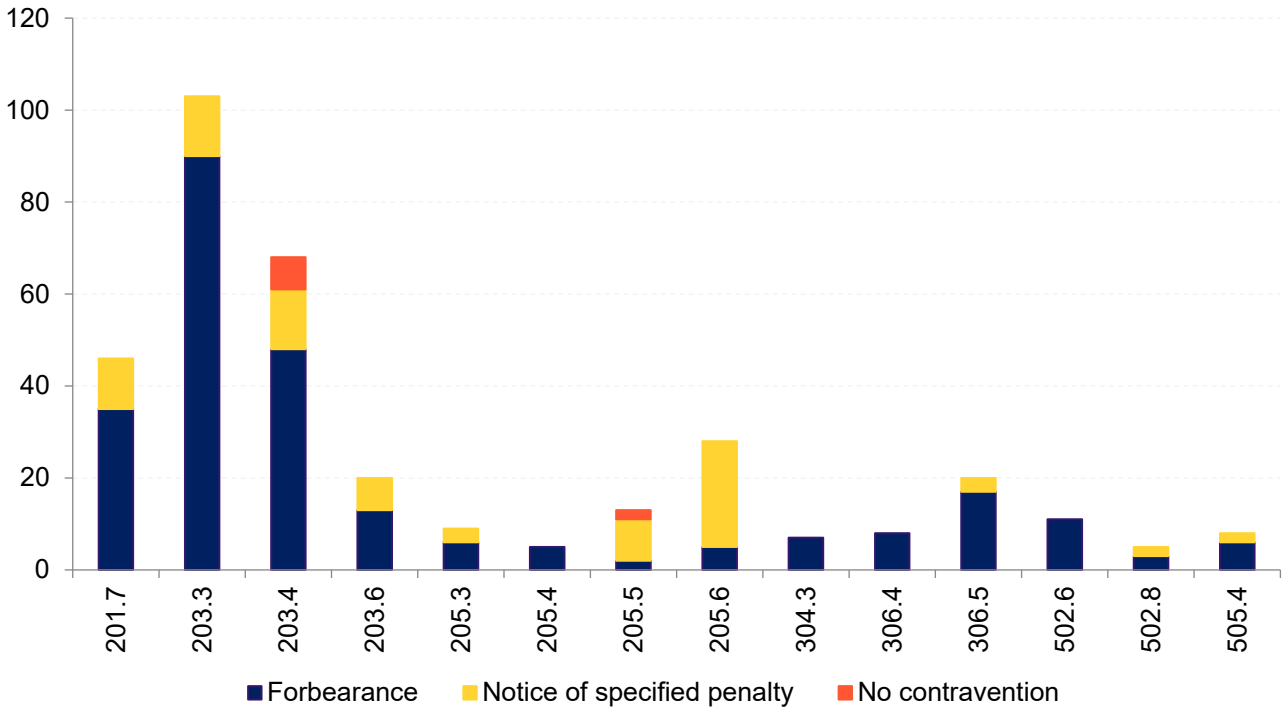
In 2022, the MSA addressed 323 ISO rules matters that were received via self-report and 49 matters that were received through AESO referrals (87% and 13% of total matters addressed, respectively). The number of referred matters both received and addressed in 2022 was slightly higher compared to 2021, though both were lower than preceding years, as seen in Figure 1 and Figure 3.

Figure 3: ISO rules matters addressed, self-reports versus AESO referrals



As seen in Figure 4 and Figure 5, most matters reviewed by the MSA relate to ISO rules governing the most common day-to-day market activities. These include the submission of energy restatements (section 203.3), delivery of energy or operating reserves in response to a dispatch or directive (sections 203.4 for energy and 205.4 through 205.6 for operating reserves), submissions related to interchange transactions (sections 203.3 and 203.6), and acknowledging dispatches (section 201.7).

Figure 4: ISO rules compliance outcomes in 2022⁴

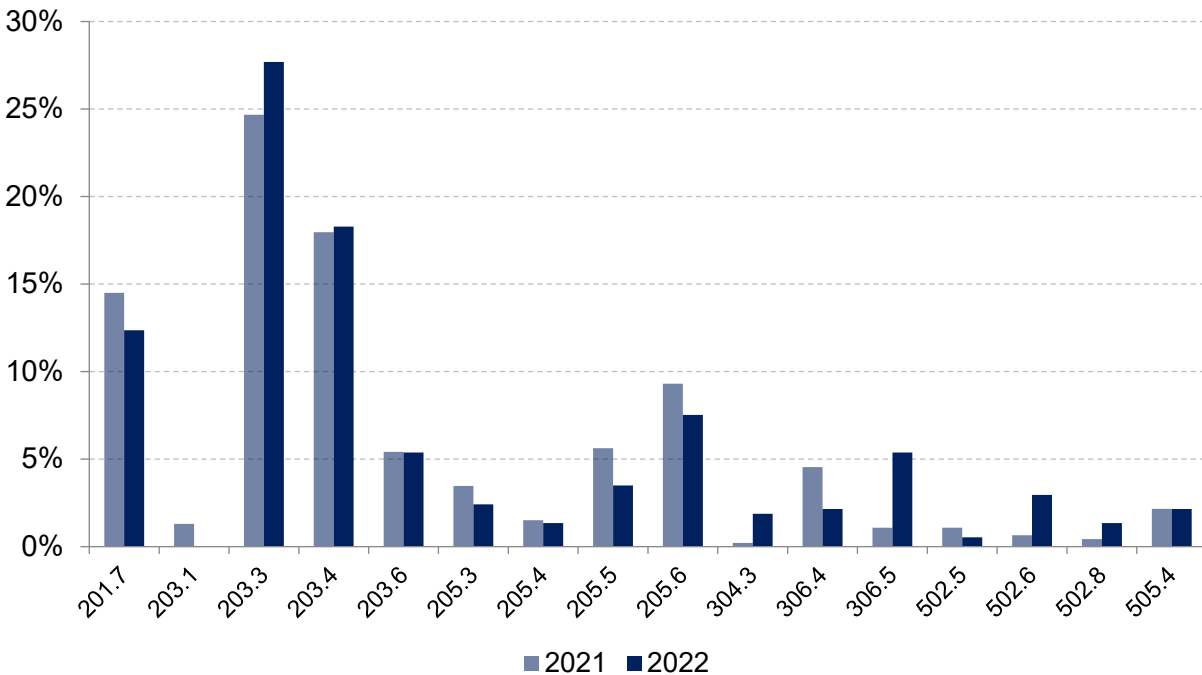


The sections of ISO rules listed in Figure 4 and Figure 5 fall into the following categories:

- 201 General (Markets)
- 203 Energy Market
- 205 Ancillary Services Market
- 304 Routine Operations
- 306 Outages and Disturbances
- 502 Technical Requirements
- 505 Legal Owners of Generating Facilities

⁴ For ISO rules that had at least five matters addressed in 2022. Outcomes for all ISO rules matters are presented in Table A1. The MSA may issue a no contravention disposition when the specific conduct at issue has not contravened the requirements of the ISO rules or meets a specific compliance exception outlined in the ISO rules. None of the no contravention outcomes in 2022 were the result of a difference in interpretation with AESO referral findings.

Figure 5: 2021 and 2022 addressed ISO rules matters⁵



Twenty-six different sections of the ISO rules were addressed in self-reports and referrals in 2022,⁶ compared to 31 sections in 2021. There were no significant changes in the sections of ISO rules matters that were addressed between 2021 and 2022; however, there were increases in the share of section 306.5 (+4%) and 203.3 (+3%) matters and a decrease in the share of section 201.7, 205.5, and 306.4 matters (-2%).

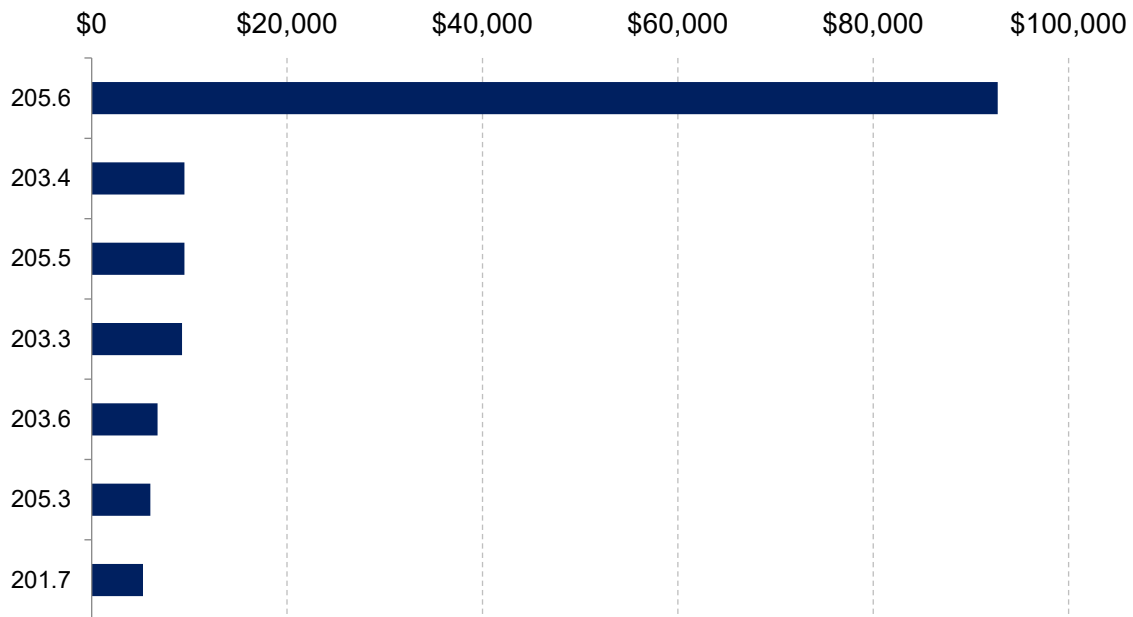
In 2022, the MSA addressed 91 ISO rules matters with notices of specified penalty issued to 40 market participants, resulting in financial penalties totalling \$143,500. In 2021, the MSA addressed 75 matters with notices of specified penalty issued to 34 market participants, totalling \$129,250. Of the 323 self-reported ISO rules matters addressed in 2022, 49 (15%) were addressed with notices of specified penalty, while 42 of the 49 (86%) addressed matters referred by the AESO were issued a notice of specified penalty.

As indicated in Figure 6 and Table A2, contraventions of ISO rules section 205.6 was associated with the highest penalty amounts, totalling \$92,750. Penalty amount totals are directly related to the number of penalties issued, as well as the penalty escalation and self-disclosure discount set out in AUC Rule 019.

⁵ Only sections of the ISO rules with at least five addressed matters in one year are displayed.

⁶ See Table A1 for more detail.

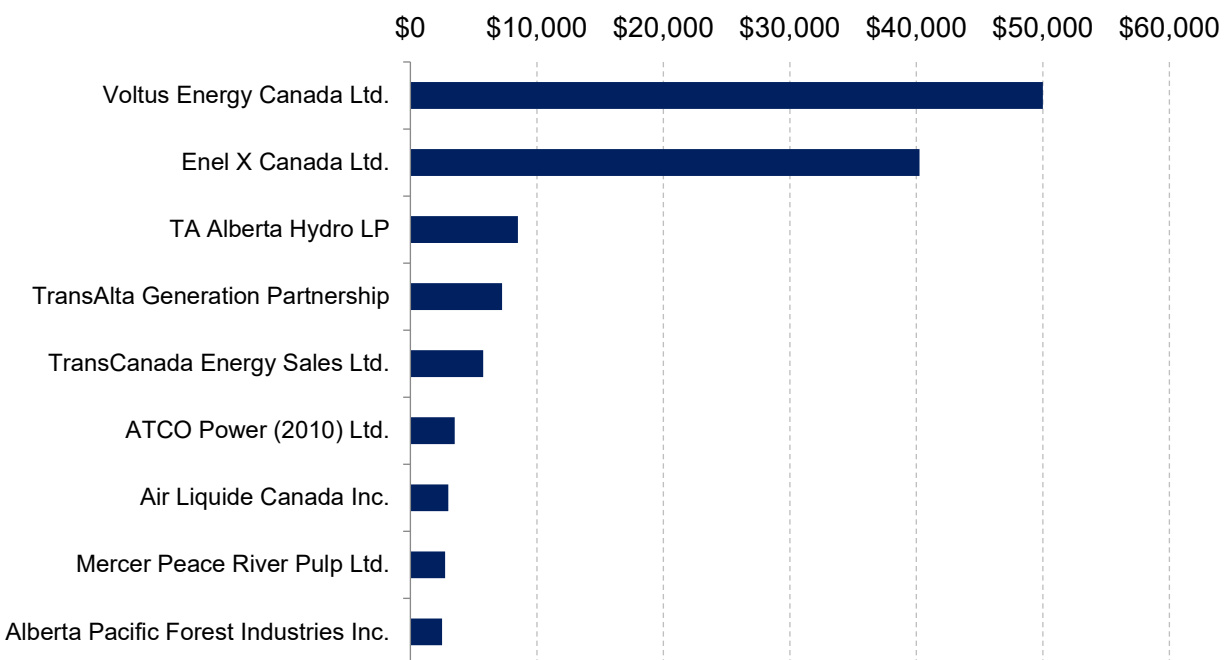
Figure 6: Total specified penalties for contraventions of ISO rules in 2022⁷



As indicated in Figure 7 and Table A2, nine market participants were issued more than \$2,000 in total penalties over this period. The percentage of matters addressed with a notice of specified penalty for a first contravention within the previous 12 months increased to 63% in 2022 from 56% in 2021. The high proportion of first contraventions remains a positive indicator that there are few persistent compliance problems with ISO rules in 2022. Among the remaining matters addressed with specified penalties issued in 2022, 12% were second contraventions, 7% were third contraventions, and 19% were fourth or subsequent contraventions within the previous 12 months. Two market participants received penalties escalated to the fourth contravention or higher. Higher frequency contraventions receive greater specified penalties as per AUC Rule 019.

⁷ Only sections of the ISO rules with penalties totalling more than \$5,000 are included in this figure. See Table A2 for more detail.

Figure 7: Total specified penalties for contraventions of ISO rules by market participant in 2022⁸



4 ALBERTA RELIABILITY STANDARDS

4.1 Monitoring and enforcement of the AESO's compliance

The MSA has ARS enforcement responsibilities regarding the compliance of market participants and the AESO. The majority of ARS are applicable to the AESO, given the scope of its responsibilities and its mandate to maintain system stability and reliability. WECC assists the MSA in its monitoring of the AESO's compliance with ARS, pursuant to a services agreement.⁹

As a guide to monitoring the AESO's compliance with ARS, the MSA and WECC use the Compliance Monitoring Program developed by the AESO to monitor market participants. Efforts are made to maintain consistency, where possible, with the program WECC applies to other entities. Each year the MSA works with WECC to develop a plan to monitor the AESO's compliance with ARS. The plan sets out the scope of compliance monitoring, including audits and self-certification. In 2023, the AESO will perform its annual self-certification of ARS compliance. The next audits of the AESO will occur in 2024 and 2025.

⁸ Only sections of the ISO rules with penalties totalling more than \$2,000 are included in this figure. See Table A2 for more detail.

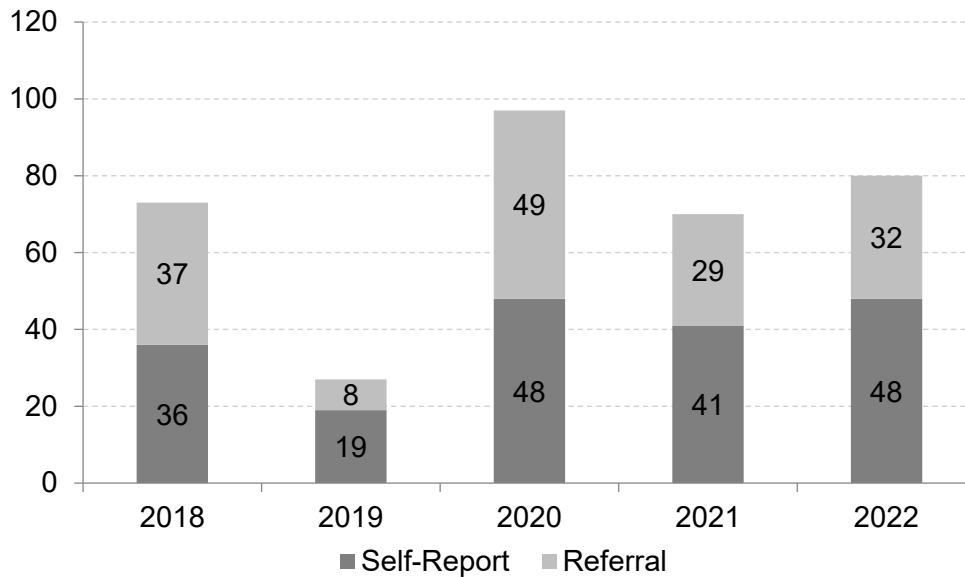
⁹ WECC is the regional entity responsible for assuring the reliability of the bulk electric system in the Western Interconnection. See [MSA WECC Services Agreement](#) (April 30, 2010).

4.2 Activity levels: Operations and Planning

The MSA addressed 80 O&P ARS matters in 2022. At the end of 2022, 25 O&P ARS matters remained under review. Of the 80 matters addressed in 2022, 69 (86%) resulted in forbearance, seven (9%) resulted in a notice of specified penalty, one (1%) resulted in no contravention, and three (4%) were rejected.¹⁰

As indicated in Figure 8, the MSA opened 80 O&P ARS matters in 2022, compared with 70 in 2021. In 2022, the number of O&P ARS matters addressed compared to 2021 remained the same, as seen in Figure 9 and Figure 10. The number of O&P ARS matters varies from year to year due to the three-year audit cycle.

Figure 8: O&P ARS matters received



¹⁰ A self-reported matter may be rejected if it is not complete or pertains to conduct not self-identified by the market participant. None of the no contravention outcomes in 2022 were the result of a difference in interpretation with AESO referral findings.

Figure 9: O&P ARS matters addressed or unresolved at the end of the year

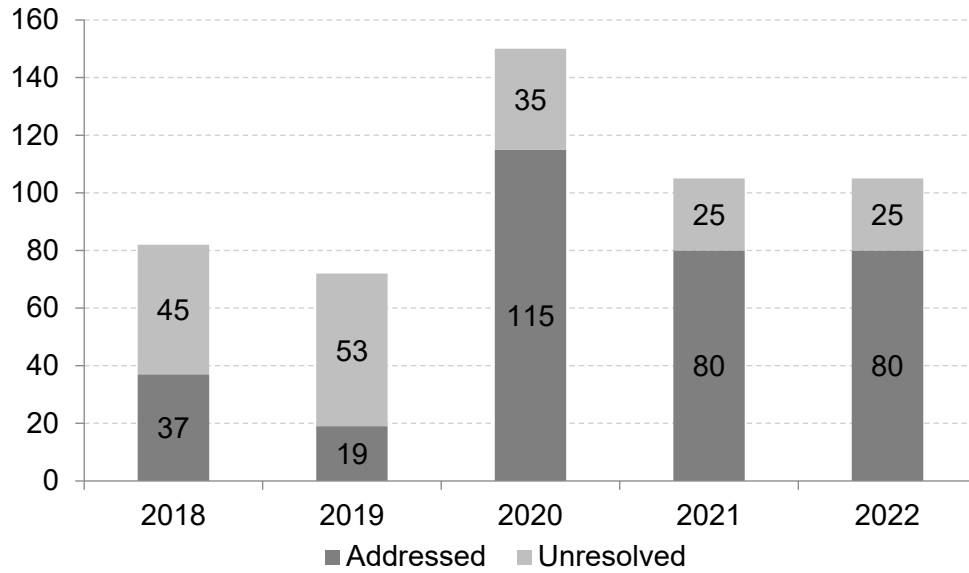
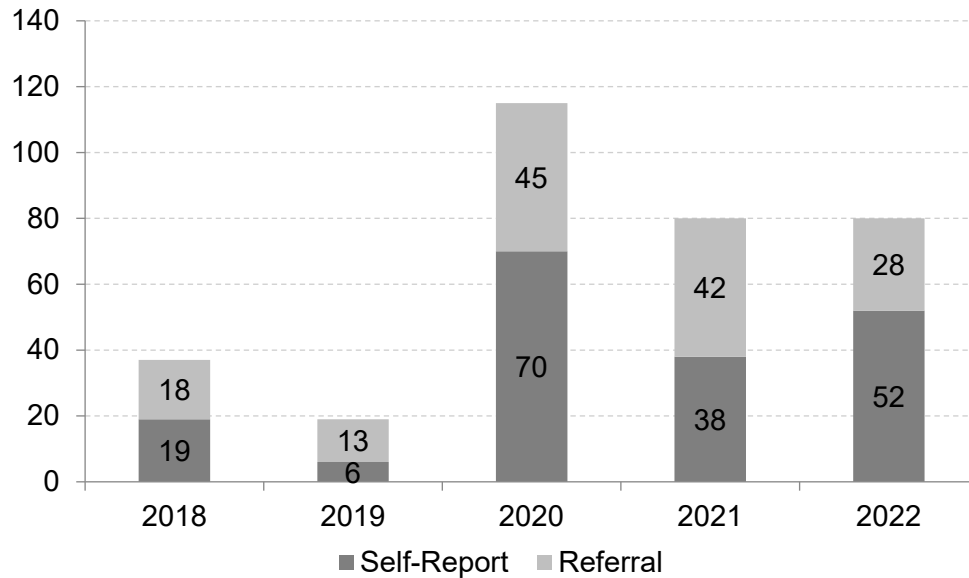
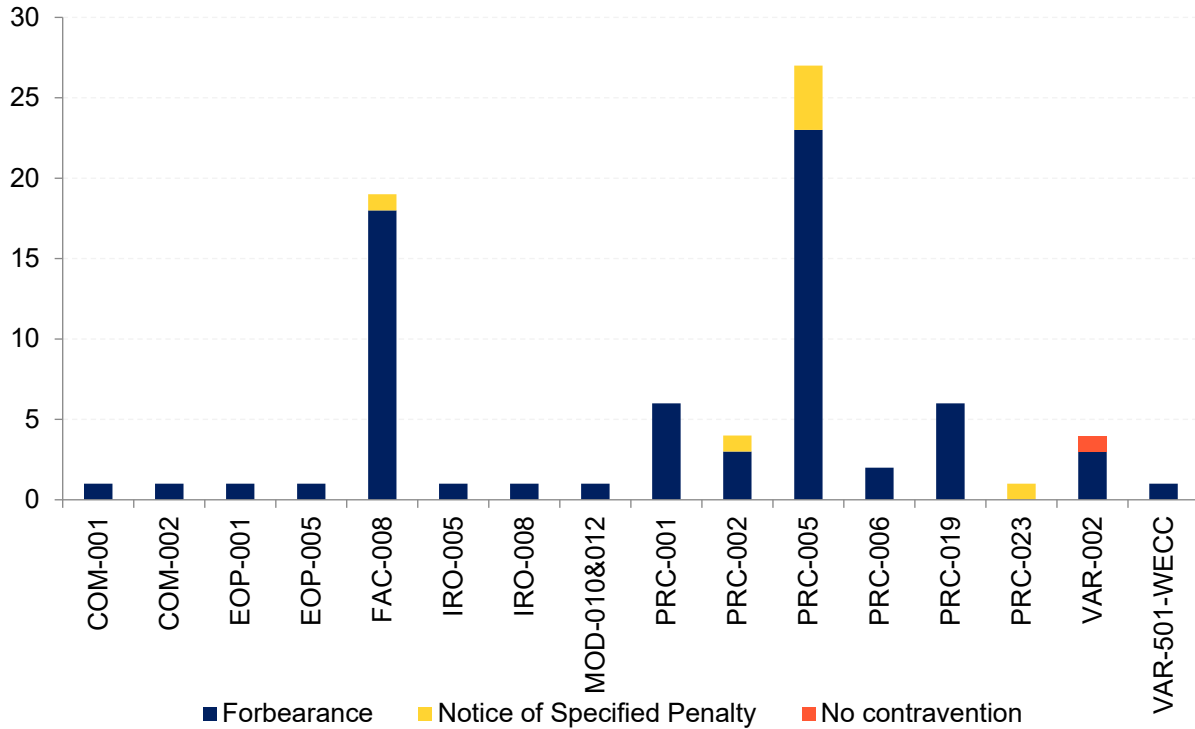


Figure 10: O&P ARS matters addressed, self-reports and AESO referrals



As demonstrated by Figure 11 and Figure 12, the most frequent O&P ARS contraventions addressed this year continue to be related to FAC-008 and PRC-005.

Figure 11: O&P ARS compliance outcomes in 2022¹¹

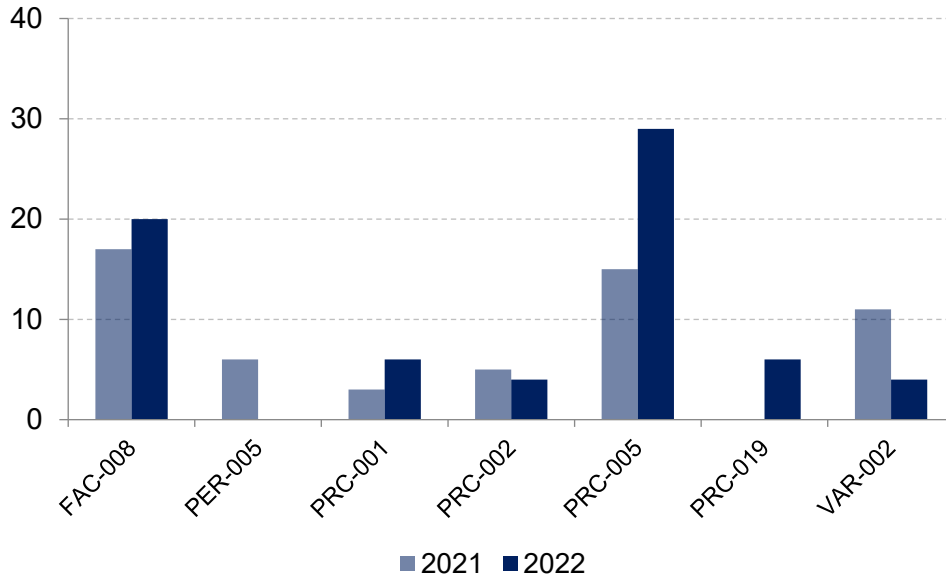


The ARS listed in Figure 11 and Figure 12 fall into the following categories:

- COM Communications
- EOP Emergency Preparedness and Operations
- FAC Facilities Design, Connections, and Maintenance
- IRO Interconnection Reliability Operations and Coordination
- MOD Modelling, Data, and Analysis
- PRC Protection and Control
- VAR Voltage and Reactive

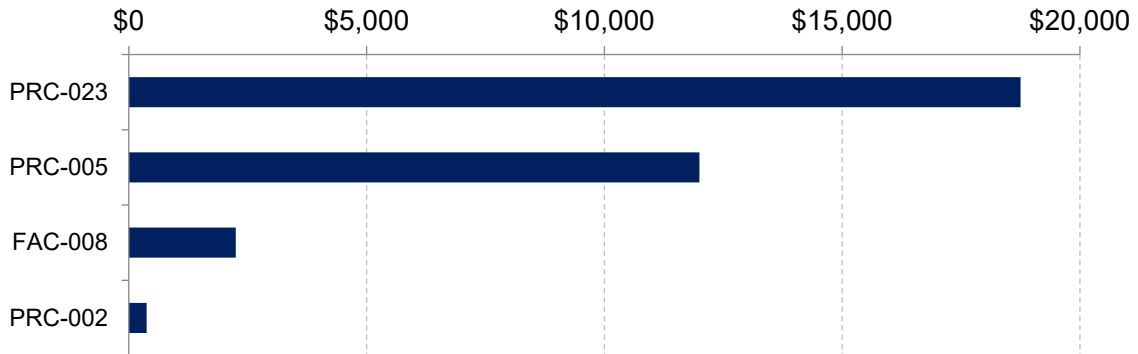
¹¹ See Table A3 for more detail.

Figure 12: 2021 and 2022 addressed matters by totals¹²



In 2022, seven matters involving four ARS were addressed with notices of specified penalty, resulting in financial penalties totalling \$33,375. In 2021, 12 matters involving four ARS were addressed with notices of specified penalty, resulting in total penalties of \$22,000. Figure 13 and Figure 14 show the total penalty amount in 2022 by ARS and by market participant.

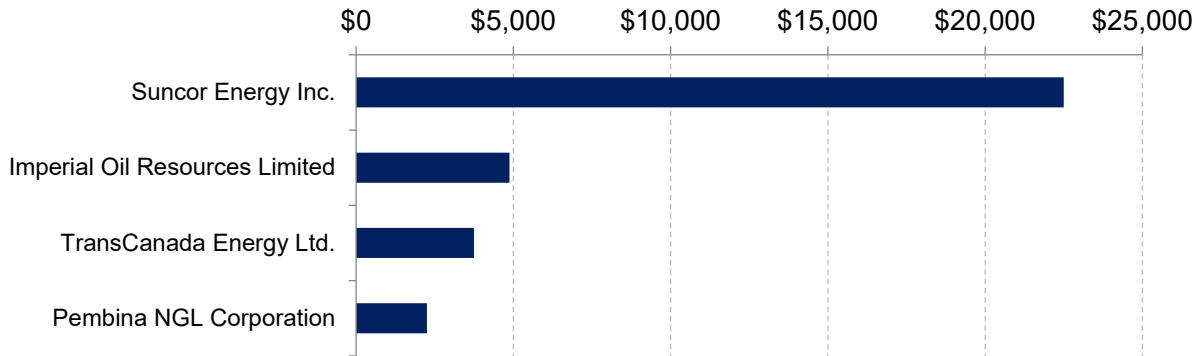
Figure 13: Total specified penalties for O&P ARS addressed in 2022¹³



¹² Only O&P ARS with at least five addressed matters in one year are displayed.

¹³ See Table A4 for more detail.

Figure 14: Total specified penalties for contraventions of O&P ARS by market participant in 2022¹⁴



4.3 Activity levels: Critical Infrastructure Protection

The MSA addressed 243 CIP ARS matters in 2022. At the end of 2022, 76 CIP ARS matters remained under review. Of the 243 matters, 35 (14%) were addressed with notices of specified penalty, 200 (82%) resulted in forbearance, 6 (2%) were issued a no contravention disposition, and 2 (<1%) were withdrawn.¹⁵

While the total number of CIP ARS matters received in 2022 was lower than in 2021, the number of self-reported matters was higher than 2021 (Figure 15). The number of CIP ARS matters is likely to vary from year to year due to the three-year audit cycle.

While fewer CIP ARS matters were addressed in 2022 than in 2021 (Figure 16 and Figure 17), the number of unresolved files decreased despite a large number of matters received in late December 2022. The large number of CIP ARS matters addressed in 2020 was the result of resolving a backlog of CIP ARS matters, which had accumulated from previous years.

¹⁴ See Table A4 for more detail.

¹⁵ Market participants may request that a self-report be withdrawn. The MSA may issue a no contravention disposition when the specific conduct at issue has not contravened the requirements of the ARS. None of the no contravention outcomes in 2022 were the result of a difference in interpretation with AESO referral findings.

Figure 15: CIP ARS matters received

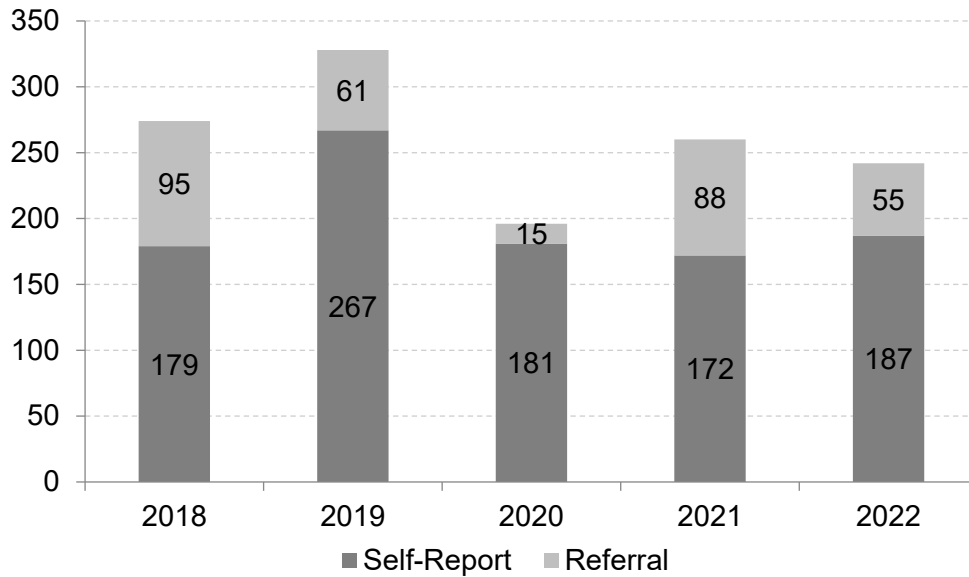


Figure 16: CIP ARS matters addressed or unresolved at the end of the year

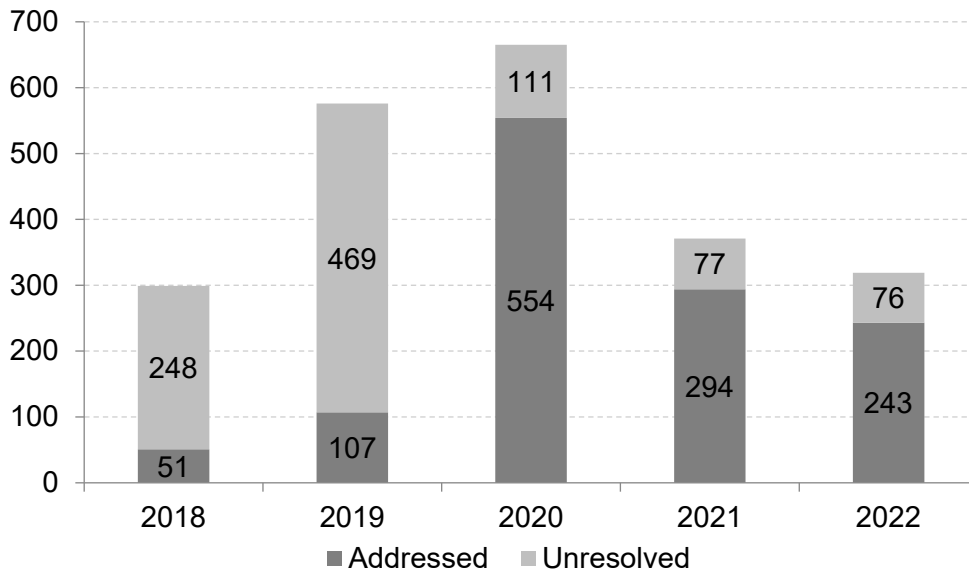
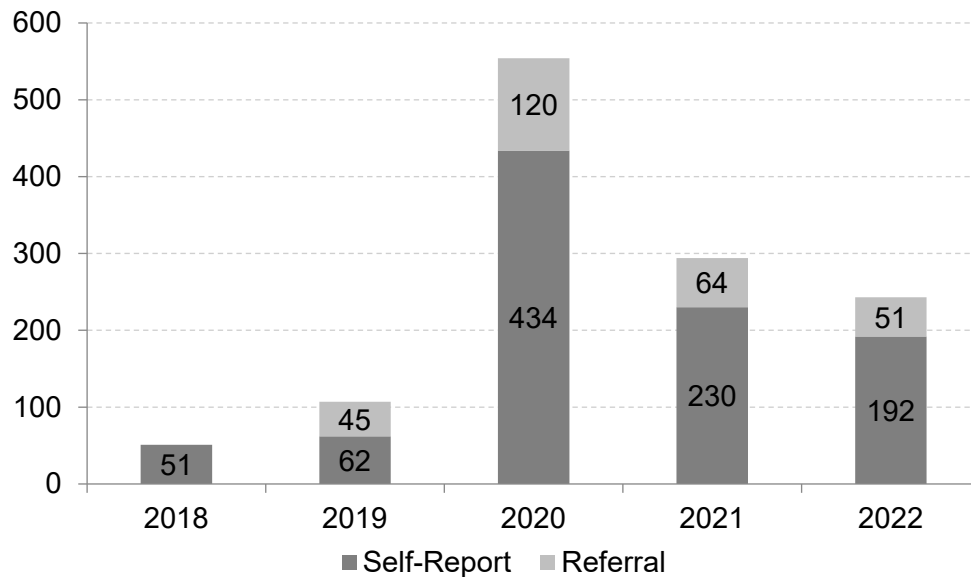


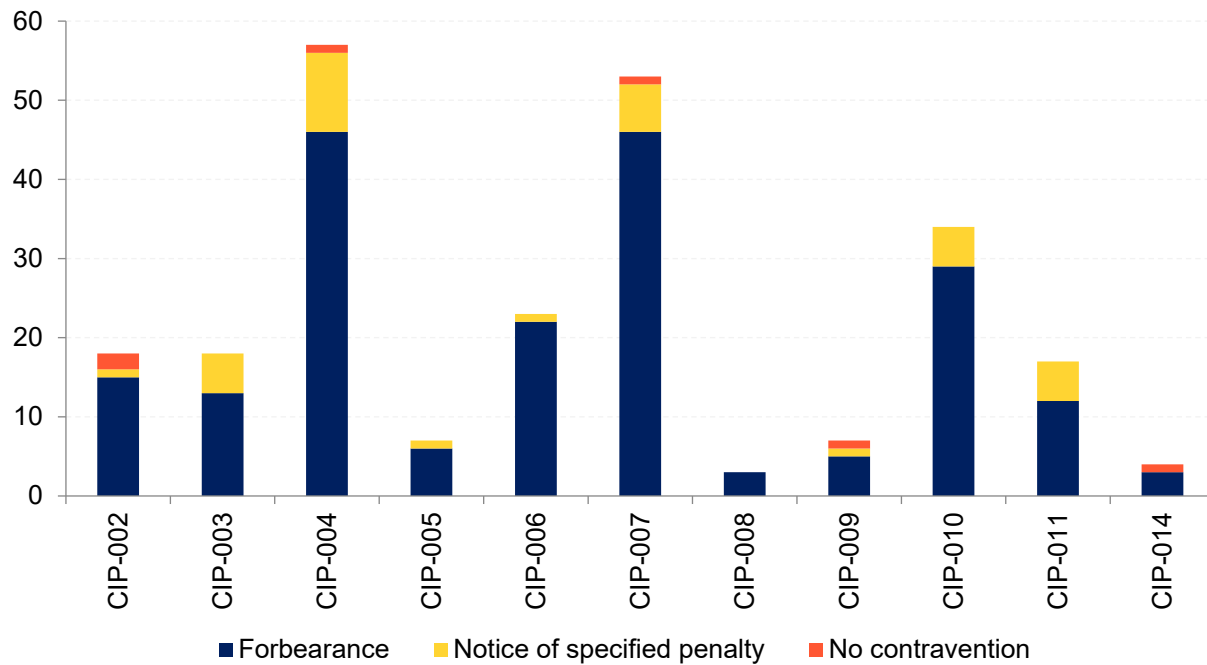
Figure 17: CIP ARS matters addressed, self-reports and AESO and WECC referrals



As demonstrated in Figure 18 the most frequent CIP ARS contraventions addressed in 2022 related to CIP-004, followed by CIP-007 and CIP-010. These three ARS made up 60% of the CIP ARS matters addressed in 2022 and are also the most frequently contravened CIP ARS in other jurisdictions.¹⁶ Figure 19 and Figure 20 show that the distribution of CIP ARS matters addressed in 2022 remained comparable to the distribution in 2021.

¹⁶ NERC [Compliance Monitoring and Enforcement Program and Organization Registration and Certification Program Annual Report](#) (February 9, 2022).

Figure 18: CIP ARS compliance outcomes in 2022¹⁷



The ARS listed in Figure 18, Figure 19 and Figure 20 fall into the following categories:

- CIP-002 BES Cyber System Categorization
- CIP-003 Security Measurement Controls
- CIP-004 Personnel & Training
- CIP-005 Electronic Security Perimeter(s)
- CIP-006 Physical Security of BES Cyber Systems
- CIP-007 System Security Management
- CIP-008 Incident Reporting and Response
- CIP-009 Recovery Plans for BES Cyber Systems
- CIP-010 Configuration Change Management and Vulnerability Assessments
- CIP-011 Information Protection
- CIP-014 Physical Security

¹⁷ See Table A5 for more detail. The MSA may issue a no contravention disposition when the specific conduct at issue has not contravened the requirements of the ARS. None of the no contravention outcomes in 2022 were the result of a difference in interpretation with AESO referral findings.

Figure 19: 2021 and 2022 addressed matters by totals

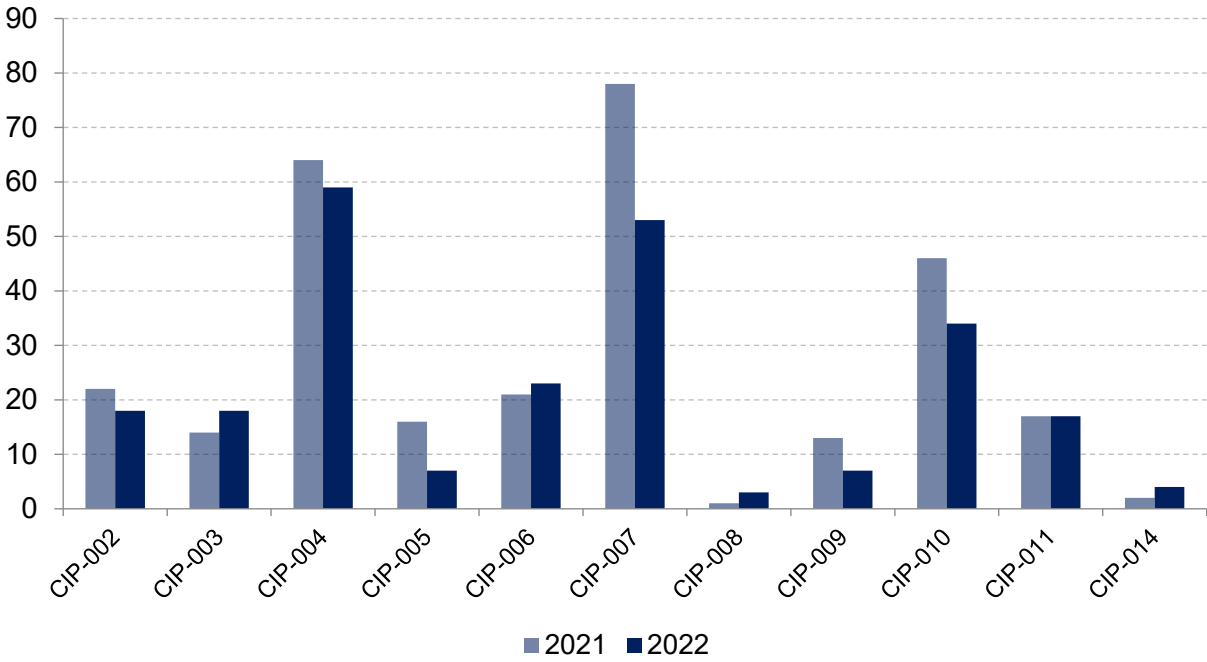
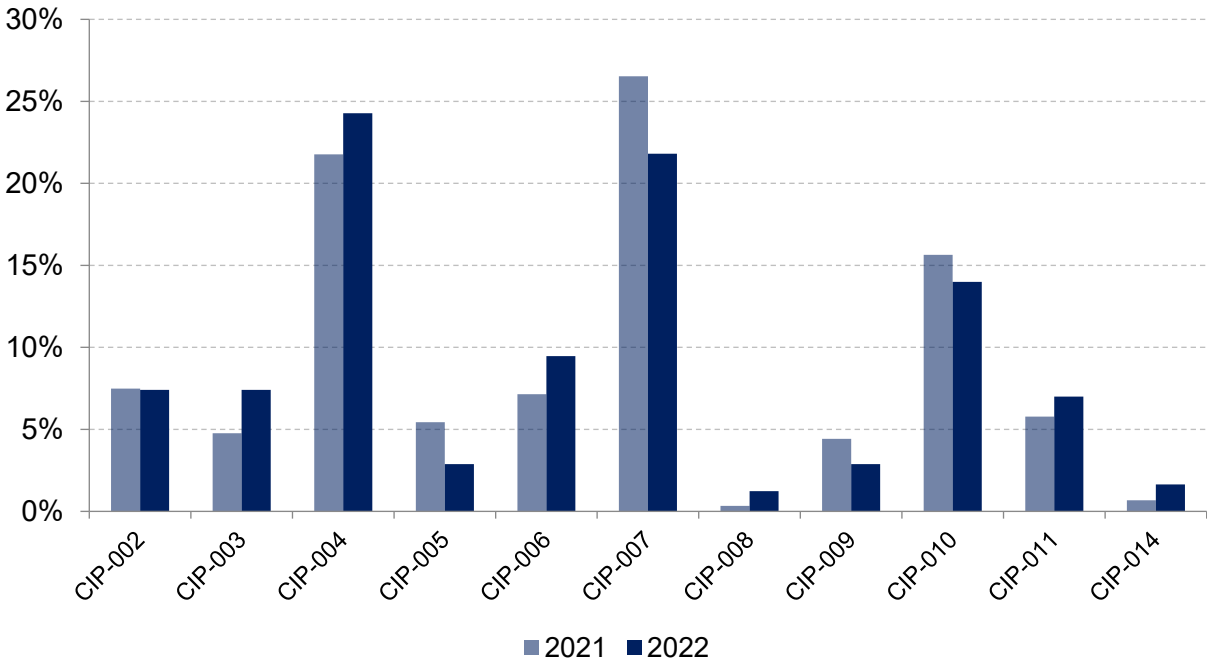
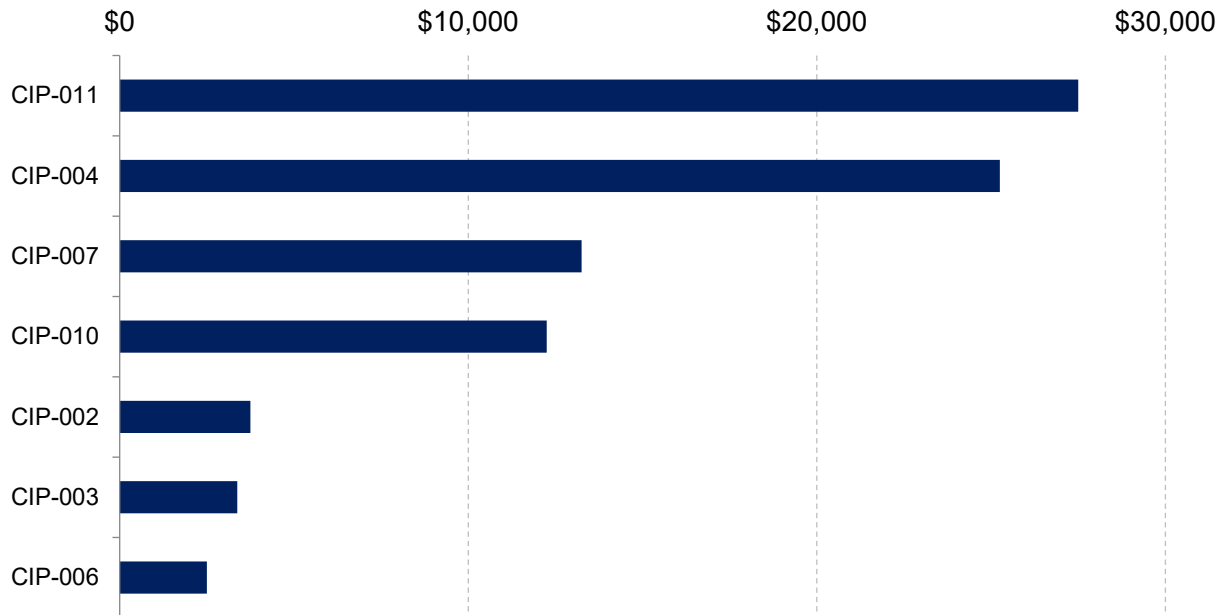


Figure 20: 2021 and 2022 addressed matters by percentage



In 2022, 35 matters involving nine CIP ARS were addressed with notices of specified penalty, resulting in a total financial amount of \$91,625. In comparison, in 2021, 87 matters involving nine CIP ARS were addressed with notices of specified penalty, resulting in a total financial amount of \$216,350. Figure 21 presents the total penalty amounts by standard in 2022. Of the matters addressed with notices of specified penalty in which AUC Rule 027 requires a determination of severity level, 60% were low severity, 30% were moderate severity, 3% were high severity, and 7% were severe severity.

Figure 21: Total specified penalties for CIP ARS addressed in 2022¹⁸



¹⁸ Only CIP ARS with penalties totalling more than \$2,250 are included in this figure.

REFERENCES

Legislation

Alberta Utilities Commission Act

https://kings-printer.alberta.ca/1266.cfm?page=A37P2.cfm&leg_type=Acts&isbncln=9780779785322

Electric Utilities Act

https://kings-printer.alberta.ca/1266.cfm?page=E05P1.cfm&leg_type=Acts&isbncln=9780779813551

Hydro and Electric Energy Act

https://kings-printer.alberta.ca/1266.cfm?page=H16.cfm&leg_type=Acts&isbncln=9780779814848

Transmission Regulation

https://kings-printer.alberta.ca/1266.cfm?page=2007_086.cfm&leg_type=Regs&isbncln=9780779782314

Alberta Utilities Commission

AUC Rules

<https://www.auc.ab.ca/rules/rules-home>

Alberta Electric System Operator

AESO Compliance Monitoring

<https://www.aeso.ca/rules-standards-and-tariff/compliance-monitoring/>

Alberta Reliability Standards

<https://www.aeso.ca/rules-standards-and-tariff/alberta-reliability-standards/>

ISO Rules

<https://www.aeso.ca/rules-standards-and-tariff/iso-rules/>

Market Surveillance Administrator

MSA Compliance Process

<https://www.albertamsa.ca/assets/Documents/2020-12-04-MSA-Compliance-Process.pdf>

MSA WECC Services Agreement

<https://www.albertamsa.ca/assets/Documents/Services-Agreement-MSA-WECC-Signed.pdf>

MSA Reports

[https://www.albertamsa.ca/documents?category\[\]=Annual+Report+to+the+Minister&category\[\]=Compliance+Review&category\[\]=MSOC&category\[\]=Quarterly+Reports&category\[\]=Other+Reports](https://www.albertamsa.ca/documents?category[]=Annual+Report+to+the+Minister&category[]=Compliance+Review&category[]=MSOC&category[]=Quarterly+Reports&category[]=Other+Reports)

APPENDIX A: DATA SUPPLEMENT

Table A1: ISO rules compliance outcomes in 2022

ISO rule	Forbearance	Notice of specified penalty	No contravention	Referred	Total
103.1	1	-	-	-	1
201.3	2	-	-	-	2
201.7	35	11	-	-	46
202.4	2	1	-	-	3
203.3	90	13	-	-	103
203.4	48	13	7	-	68
203.6	13	7	-	-	20
205.3	6	3	-	-	9
205.4	5	-	-	-	5
205.5	2	9	2	-	13
205.6	5	23	-	-	28
301.2	-	2	-	-	2
304.3	7	-	-	-	7
304.7	2	-	-	-	2
306.4	8	-	-	-	8
306.5	17	3	-	-	20
502.1	1	-	-	-	1
502.4	2	-	-	-	2
502.5	-	2	-	-	2
502.6	11	-	-	-	11
502.8	3	2	-	-	5
502.10	1	-	-	-	1
505.3	3	-	-	-	3
505.4	6	2	-	-	8
9.1.3	1	-	-	-	1
9.1.5	-	-	-	1	1
Total	271	91	9	1	372

The sections of ISO rules listed in Table A1 and Table A2 fall into the following categories:

- 103 Administration
- 201 General (Markets)
- 202 Dispatching the Markets
- 203 Energy Market
- 205 Ancillary Services Market
- 301 General (System Reliability and Operations)
- 304 Routine Operations
- 306 Outages and Disturbances
- 502 Technical Requirements
- 505 Legal Owners of Generating Facilities
- 9 Transmission

Table A2: Specified penalties issued between January 1, 2022 and December 31, 2022 for contraventions of ISO rules

Market participant	Total specified penalty amounts by ISO rule (\$)													Total (\$)	Matters
	201.7	202.4	203.3	203.4	203.6	205.3	205.5	205.6	301.2	306.5	502.5	502.8	505.4		
Air Liquide Canada Inc.						500	2,000	500						3,000	4
Alberta Electric System Operator					250									250	1
Alberta Pacific Forest Industries Inc.	500							2,000						2,500	3
Alberta Power (2000) Ltd.			1,000											1,000	2
AltaGas Ltd.	500			500										1,000	2
ATCO Power (2010) Ltd.			3,000	500										3,500	3
British Columbia Hydro and Power Authority													500	500	1
Bull Creek Wind Power Limited Partnership	500													500	1
Calgary Energy Centre No. 2 Inc.											250			250	1
Capital Power (G3) Limited Partnership										500				500	1
Capital Power (Genesee) L.P.										1,000				1,000	2
Claresholm Solar LP												1,000		1,000	2
Concord Coaldale Partnership			250											250	1
CP Energy Marketing L.P.					250									250	1
DAPP Power L.P.			500	1,500										2,000	2
Enel X Canada Ltd.								40,250						40,250	10
Enfinite Corporation							500							500	2
Enfinite Generation Corporation				500										500	1
ENMAX Cavalier LP											250			250	1
ENMAX Generation Portfolio Inc.						500								500	1
Grande Prairie Generation Inc.				250										250	1
Imperial Oil Limited	500		250											750	2
Irrigation Canal Power Co-op Ltd.				250										250	1

Table A2: Specified penalties issued between January 1, 2022 and December 31, 2022 for contraventions of ISO rules (continued)

Market participant	Total specified penalty amounts by ISO rule (\$)													Total (\$)	Matters
	201.7	202.4	203.3	203.4	203.6	205.3	205.5	205.6	301.2	306.5	502.5	502.8	505.4		
Mercer Peace River Pulp Ltd.			2,000				750							2,750	3
Milner Power II Limited Partnership by its General Partner, Milner Power II Inc	500			250									250	1,000	3
Northstone Power Corp.				500										500	1
Powerex Corp.	250				250									500	2
Repsol Canada Energy Partnership	500													500	1
Suffield Solar LP	500			250										750	2
Suncor Energy Inc.			250				250							500	2
Syncrude Canada Ltd.			250											250	1
TA Alberta Hydro LP				3,000		5,000	500							8,500	4
Tourmaline Oil Corp.	500			500										1,000	2
TransAlta Energy Marketing Corp.					250									250	1
TransAlta Generation Partnership		250		1,500			5,500							7,250	4
TransCanada Energy Sales Ltd.					5,750									5,750	3
Voltus Energy Canada Ltd.								50,000						50,000	10
West Fraser Mills Ltd.	500		1,500											2,000	2
Whitecourt Power Ltd.	500		250											750	2
Yellow Lake & Burdett Solar LP									500					500	2
Total	5,250	250	9,250	9,500	6,750	6,000	9,500	92,750	500	1,500	500	1,000	750	143,500	91

Table A3: O&P ARS compliance outcomes in 2022

Reliability standard	Forbearance	Notice of specified penalty	No contravention	Rejected	Total
COM-001	1	-	-	-	1
COM-002	1	-	-	-	1
EOP-001	1	-	-	-	1
EOP-005	1	-	-	-	1
FAC-008	18	1	-	1	20
IRO-005	1	-	-	-	1
IRO-008	1	-	-	-	1
MOD-010&012	1	-	-	-	1
PRC-001	6	-	-	-	6
PRC-002	3	1	-	-	4
PRC-005	23	4	-	2	29
PRC-006	2	-	-	-	2
PRC-019	6	-	-	-	6
PRC-023	-	1	-	-	1
VAR-002	3	-	1	-	4
VAR-501-WECC	1	-	-	-	1
Total	69	7	1	3	80

The ARS listed in Table A3 and Table A4 fall into the following categories:

- COM Communications
- EOP Emergency Preparedness and Operations
- FAC Facilities Design, Connections, and Maintenance
- IRO Interconnection Reliability Operations and Coordination
- MOD Modeling, Data, and Analysis
- PRC Protection and Control
- VAR Voltage and Reactive

Table A4: Specified penalties issued between January 1, 2022 and December 31, 2022 for contraventions of O&P ARS

Market participant	Total specified penalty amounts by ARS (\$)				Total (\$)	Matters
	FAC-008	PRC-002	PRC-005	PRC-023		
Imperial Oil Resources Limited	2,250	375	2,250		4,875	3
Pembina NGL Corporation			2,250		2,250	1
Suncor Energy Inc.			3,750	18,750	22,500	2
TransCanada Energy Ltd.			3,750		3,750	1
Total	2,250	375	12,000	18,750	33,375	7

Table A5: CIP ARS compliance outcomes in 2022

Reliability standard	Forbearance	Notice of specified penalty	No contravention	Withdrawn	Total
CIP-002	15	1	2	-	18
CIP-003	13	5	-	-	18
CIP-004	46	10	1	2	59
CIP-005	6	1	-	-	7
CIP-006	22	1	-	-	23
CIP-007	46	6	1	-	53
CIP-008	3	-	-	-	3
CIP-009	5	1	1	-	7
CIP-010	29	5	-	-	34
CIP-011	12	5	-	-	17
CIP-014	3	-	1	-	4
Total	200	35	6	2	243

The ARS listed in Table A5 fall into the following categories:

- CIP-002 BES Cyber System Categorization
- CIP-003 Security Measurement Controls
- CIP-004 Personnel & Training
- CIP-005 Electronic Security Perimeter(s)
- CIP-006 Physical Security of BES Cyber Systems
- CIP-007 System Security Management
- CIP-008 Incident Reporting and Response
- CIP-009 Recovery Plans for BES Cyber Systems
- CIP-010 Configuration Change Management and Vulnerability Assessments
- CIP-011 Information Protection
- CIP-014 Physical Security