

**EPAP Themes and Associated Noncompliance Events (NCE)**

Please note: where an NCE is linked to multiple EPAP Themes, the portion of the NCE pertaining to the theme is highlighted in blue

| Theme   | NCE # | Noncompliance Event   | Description  | Control Objective   | Directive                                     |
|---|-------|---|--|---|---|
| <b>1 Measurement System Design and Installation</b>                           |       |   | Measurement system design and installation of any facility reporting to Petrinex | Ensure that measurement systems are designed and installed in accordance with AER requirements  | D017: 1, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14 |
|   | 877   | Inaccurate header markings  |  |   |   |
|   | 878   | Delivery point hydrocarbon liquid meas. device(s) does not exist, is not installed or used correctly, or not in use |  |   |   |
|   | 879   | Delivery point gas meas. device(s) does not exist, is not installed or used correctly, or not in use                |  |   |   |
|   | 880   | Delivery point produced water meas. device(s) does not exist, is not installed or used correctly, or not in use     |  |   |   |
|   | 881   | Delivery point fresh / brackish water meas. device(s) does not exist, is not installed correctly, or not in use     |  |   |   |
|   | 882   | Gas meter(s) does not exist, is not installed or used correctly, or not in use                                      |  |   |   |
|   | 888   | Injection / disposal meas. device(s) does not exist, is not installed or used correctly, or not in use              |  |   |   |
|   | 930   | Well meas. inappropriate for battery  |  |   |   |
|   | 932   | Test gas or effluent meas. device(s) does not exist, is not installed or used correctly, or not in use              |  |   |   |
|   | 941   | Test hydrocarbon liquid meas. device(s) does not exist, is not installed or used correctly, or not in use           |  |   |   |
|   | 942   | Test water meas. device(s) does not exist, is not installed or used correctly, or not in use                        |  |   |   |
| <b>2 Measurement Device Maintenance (Calibration, Inspection and Proving)</b> |       |   | Maintenance and verification of all measurement devices (meters, gauge boards)   | Ensure all measurement devices used to determination volumetric data are verified, calibrated, or proven using appropriate equipment and procedures in accordance with AER requirements | D017: 2, 14                                   |
|   | 893   | Meas. device(s) calibrated/proven inappropriately and not within required frequency                                 |  |   |   |
|   |       |   |  |   |   |
| <b>3 Measurement Device Operation</b>   |       |   | Operation of all measurement devices (meters, gauge boards)                      | Ensure all measurement devices used to determine volumetric data are operated in accordance with AER requirements   | D017: 4, 6, 9, 11, 12, 13, 14, 15             |
|   | 878   | Delivery point hydrocarbon liquid meas. device(s) does not exist, is not installed or used correctly, or not in use |  |   |   |
|   | 879   | Delivery point gas meas. device(s) does not exist, is not installed or used correctly, or not in use                |  |   |   |
|   | 880   | Delivery point produced water meas. device(s) does not exist, is not installed or used correctly, or not in use     |  |   |   |
|   | 881   | Delivery point fresh / brackish water meas. device(s) does not exist, is not installed correctly, or not in use     |  |   |   |
|   | 882   | Gas meter(s) does not exist, is not installed or used correctly, or not in use                                      |  |   |   |
|   | 883   | Inaccurate inventory determination  |  |   |   |
|   | 887   | Inaccurate meas. of oil produced from a gas well  |  |   |   |
|   | 888   | Injection / disposal meas. device(s) does not exist, is not installed or used correctly, or not in use              |  |   |   |
|   | 898   | Pressure and temperature corrections inaccurately determined  |  |   |   |
|   | 902   | Inaccurate flash-gas estimation   |  |   |   |
|   | 943   | Hydrocarbon liquid blending factor inaccurately determined  |  |   |   |

|   |                                |   |  |  |                                       |
|---|--------------------------------|---|--|--|---------------------------------------|
| 4 | <b>Sampling &amp; Analysis</b> |   | Sampling and analysis of gas, hydrocarbon fluids and water | Ensure that representative samples are collected and analyzed using appropriate equipment and procedures in accordance with AER requirements | D017: 8, 9, 11,14<br>Appendix 4, 5, 7 |
|   | 885                            | Inappropriate liquid sampling and S&W procedures.                                 |  |  |                                       |
|   | 925                            | Gas and condensate composition and density not updated to the required frequency. |  |  |                                       |

|     |  |   |  |   |                                       |
|-----|--|---|--|---|---------------------------------------|
| 5   | <b>Proration Testing- Oil/Bitumen/In- situ/Sulphur Reporting at Oil Sands Wells</b>          |   | Testing of wells within Oil, Bitumen, In-situ, and/or Sulphur Reporting at Oil Sands multiwell proration batteries | Ensure testing procedures are performed in accordance with AER proration testing requirements | D017: 3, 4, 6<br>12, 14<br>Appendix 4 |
|     | 884  | Inaccurate proration testing procedures.  |  |   |                                       |
|     | 885  | Inappropriate liquid sampling and S&W procedures.   |  |   |                                       |
|     | 894  | GIS inaccurately determined   |  |   |                                       |
|     | 897  | GOR inaccurately determined and to required frequency   |  |   |                                       |
|     | 920  | Inaccurate load fluid procedures.   |  |   |                                       |
|     | 932  | Test gas or effluent meas. device(s) does not exist, is not installed or used correctly, or not in use    |  |   |                                       |
|     | 941  | Test hydrocarbon liquid meas. device(s) does not exist, is not installed or used correctly, or not in use |  |   |                                       |
| 942 | Test water meas. device(s) does not exist, is not installed or used correctly, or not in use |   |  |   |                                       |

|     |                                    |  |   |   |              |
|-----|------------------------------------|--|---|---|--------------|
| 6   | <b>Proration Testing- Gas Well</b> |  | Testing of wells within a gas multiwell proration battery | Ensure testing procedures are performed in accordance with AER proration testing requirements | D017:3, 5, 7 |
|     | 884                                | Inaccurate proration testing procedures.   |   |   |              |
|     | 885                                | Inappropriate liquid sampling and S&W procedures.  |   |   |              |
|     | 932                                | Test gas or effluent meas. device(s) does not exist, is not installed or used correctly, or not in use |   |   |              |
|     | 942                                | Test water meas. device(s) does not exist, is not installed or used correctly, or not in use           |   |   |              |
|     | 895                                | GE inaccurately determined   |   |   |              |
|     | 896                                | WGR inaccurately determined and to required frequency  |   |   |              |
|     | 933                                | ECF inaccurately determined and to required frequency  |   |   |              |
| 920 | Inaccurate load fluid procedures.  |  |   |   |              |

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|--------------------------|--|--|--|---|
| <b>7 EFM Systems</b>     | Electronic Flow Measurement (EFM) systems are configured, operated and maintained to meet minimum regulatory and manufacturer specifications |  | Ensure that all electronic flow measurement systems used in the determination of volumetric data are designed, installed, calibrated, and utilized in accordance with AER requirements | D017: 2, 4, 6, 14                                 |
|                          | <b>878</b>   | Delivery point hydrocarbon liquid meas. device(s) does not exist, is not installed or used correctly, or not in use. |  |   |
|                          | <b>879</b>   | Delivery point gas meas. device(s) does not exist, is not installed or used correctly, or not in use.                |  |   |
|                          | <b>880</b>   | Delivery point produced water meas. device(s) does not exist, is not installed or used correctly, or not in use.     |  |   |
|                          | <b>881</b>   | Delivery point fresh / brackish water meas. device(s) does not exist, is not installed correctly, or not in use      |  |   |
|                          | <b>882</b>   | Gas meter(s) does not exist, is not installed or used correctly, or not in use                                       |  |   |
|                          | <b>887</b>   | Inaccurate meas. of oil produced from a gas well.  |  |   |
|                          | <b>888</b>   | Injection / disposal meas. device(s) does not exist, is not installed or used correctly, or not in use.              |  |   |
|                          | <b>893</b>   | Meas. device(s) calibrated/proven inappropriately and not within required frequency.                                 |  |   |
|                          | <b>932</b>   | Test gas or effluent meas. device(s) does not exist, is not installed or used correctly, or not in use.              |  |   |
|                          | <b>941</b>   | Test hydrocarbon liquid meas. device(s) does not exist, is not installed or used correctly, or not in use.           |  |   |
| <b>942</b>               | Test water meas. device(s) does not exist, is not installed or used correctly, or not in use.  |  |  |   |
| <b>8 Field Records</b>   | Maintenance and verification of all data collected during normal operating procedures  |  | Ensure that all field records accurately reflect flow data and provide an adequate audit trail in accordance with AER requirements   | D007: 3<br><br>D017: 2, 4, 5, 6, 7, 8, 10, 11, 14 |
|                          | <b>886</b>   | Inaccurate field production records.   |  |   |
|                          | <b>892</b>   | Inaccurate gas chart quality and documentation.  |  |   |
|                          | <b>904</b>   | Inadequate production audit trail.   |  |   |
|                          | <b>931</b>   | No approval when required.   |  |   |
| <b>9 Trucked Volumes</b> | Procedures for trucking of liquids   |  | Ensure that trucking procedures are conducted in accordance with AER delivery point measurement requirements   | D017: 10  |
|                          | <b>878</b>   | Delivery point hydrocarbon liquid meas. device(s) does not exist, is not installed or used correctly, or not in use. |  |   |
|                          | <b>880</b>   | Delivery point produced water meas. device(s) does not exist, is not installed or used correctly, or not in use.     |  |   |
|                          | <b>881</b>   | Delivery point fresh / brackish water meas. device(s) does not exist, is not installed correctly, or not in use      |  |   |
|                          | <b>885</b>   | Inappropriate liquid sampling and S&W procedures.  |  |   |
| <b>893</b>               | Meas. device(s) calibrated/proven inappropriately and not within required frequency.   |  |  |   |

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|----|------------------------------------|---|--|--|
| 10 | <b>Fuel/Flare/Vent</b>             | Measurement or estimation of fuel, flared or vented gas   | Ensure that fuel/flare/vent gas volumes and activities are accurately determined in accordance with AER requirements                             | D017:1, 4, 5, 9, 10<br>D047: 5, 12<br>D060 |
|    | 889                                | Inaccurate fuel meas.   |  |  |
|    | 890                                | Inaccurate vent meas.   |  |  |
|    | 891                                | Inaccurate flare meas.  |  |  |
|    | 899                                | Inaccurate fuel gas estimation.   |  |  |
|    | 900                                | Inaccurate vent gas estimation.   |  |  |
|    | 901                                | Inaccurate flare gas estimation.  |  |  |
|    |                                    |   |  |  |
| 11 | <b>Schematic</b>                   | Creation and maintenance of measurement schematics and facility delineation diagrams, if required, for all facilities reporting to Petrinex                       | Ensure that representative drawings are created and maintained in accordance with AER requirements   | D017: 1                                    |
|    | 936                                | Measurement schematic does not exist  |  |  |
|    | 952                                | Measurement schematic contents do not meet requirement in Directive 17, section 1.9. (Effective September 11, 2014)   |  |  |
|    | 953                                | Measurement schematic content changes not updated monthly to the production accountant in time. (Effective September 11, 2014)                                    |  |  |
|    | 954                                | Measurement schematic master copy changes not updated or verification of revisions or confirmation of no change not done annually. (Effective September 11, 2014) |  |  |
|    | 955                                | The measurement schematic was not provided to the listed external parties upon request. (Effective September 11, 2014)  |  |  |
|    |                                    |   |  |  |
| 12 | <b>Facility Master Data Set Up</b> | Set up and maintenance of accurate well and facility infrastructure data  | Ensure that well and facility infrastructure data is accurately set up, maintained, and reported to Petrinex in accordance with AER requirements | D007<br>D017: 4, 5, 6, 7, 12               |
|    | 929                                | Linked well types inappropriate for battery   |  |  |
|    | 950                                | Inaccurate Registry facility sub-type   |  |  |
|    | 951                                | Inaccurate Well Status(es)  |  |  |
|    |                                    |   |  |  |

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|----|----------------------------|--|---|---|---|
| 13 | <b>Calculation Factors</b> |  | Application of calculation factors associated with oil and gas activities | Ensure that calculation factors required in the accurate reporting of volumetrics are applied in accordance with AER requirements | D017: 4, 5, 6, 7, 8, 12, 13, 14, 15, Appendix 6 |
|    | 918                        | Inappropriate application of GEF             |   |   |   |
|    | 926                        | Inappropriate application of GOR             |   |   |   |
|    | 927                        | Inappropriate application of GIS             |   |   |   |
|    | 928                        | Inappropriate application of PC / TC         |   |   |   |
|    | 934                        | Inappropriate application of WGR             |   |   |   |
|    | 935                        | Inappropriate application of ECF             |   |   |   |
|    | 944                        | Inappropriate application of blending factor |   |   |   |

|     |   |   |  |   |      |
|-----|---|---|--|---|------|
| 14  | <b>Monthly Volumetric Activity Reporting</b>  |   | Accurate determination and reporting of data to Petrinex | Ensure that all data is accurate and reported in accordance with AER requirements | D007 |
|     | 903   | Inaccurate gas volume calculations.   |  |   |      |
|     | 905   | Inaccurate accounting and reporting of metering difference(s).                |  |   |      |
|     | 906   | Inaccurate accounting and reporting of proration factor(s).                   |  |   |      |
|     | 907   | Inaccurate accounting and reporting of actual hydrocarbons liquid production. |  |   |      |
|     | 908   | Inaccurate accounting and reporting of actual gas production.                 |  |   |      |
|     | 909   | Inaccurate accounting and reporting of actual water production.               |  |   |      |
|     | 910   | Inaccurate accounting and reporting of gas dispositions.                      |  |   |      |
|     | 911   | Inaccurate accounting and reporting of water dispositions.                    |  |   |      |
|     | 912   | Inaccurate accounting and reporting of hydrocarbon liquid inventories.        |  |   |      |
|     | 913   | Inaccurate accounting and reporting of water inventories.                     |  |   |      |
|     | 914   | Inaccurate accounting and reporting of hydrocarbon liquid receipts.           |  |   |      |
|     | 915   | Inaccurate accounting and reporting of gas receipts.                          |  |   |      |
|     | 916   | Inaccurate accounting and reporting of water receipts.                        |  |   |      |
|     | 917   | Inaccurate accounting and reporting of load fluid.                            |  |   |      |
|     | 919   | Inaccurate determination of estimated hydrocarbon liquid production.          |  |   |      |
|     | 923   | Inaccurate determination of estimated gas production.                         |  |   |      |
|     | 924   | Inaccurate determination of estimated water production.                       |  |   |      |
|     | 937   | Inaccurate accounting and reporting of hydrocarbons liquid dispositions.      |  |   |      |
|     | 940   | Inaccurate well production hours reported.                                    |  |   |      |
| 948 | Inaccurate reporting of processing shrinkage. |   |  |   |      |
| 949 | Inaccurate reporting of acid gas.             |   |  |   |      |
| 945 | Inaccurate reporting of flare gas.            |   |  |   |      |
| 946 | Inaccurate reporting of vent gas.             |   |  |   |      |
| 947 | Inaccurate reporting of fuel gas.             |   |  |   |      |