

Assertion by Management of the Government of Alberta, Business Technology Operations

We are responsible for designing, implementing, operating, and maintaining effective controls within the Government of Alberta, Department of Energy's (Alberta Energy) Electronic Transfer System (ETS or System) throughout the period April 1, 2022, to March 31, 2023, to provide reasonable assurance that Alberta Energy's service commitments and system requirements were achieved based on the trust services criteria relevant to security, availability, processing integrity, and confidentiality (applicable trust services criteria) set forth in TSP section 100, *2017 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy*, in *AICPA Trust Services Criteria*. Our description of the boundaries of the system is presented in attachment A and identifies the aspects of the system covered by our assertion.


We have performed an evaluation of the effectiveness of the controls within the system throughout the period April 1, 2022, to March 31, 2023, to provide reasonable assurance that Alberta Energy's service commitments and system requirements were achieved based on the applicable trust services criteria. Alberta Energy's objectives for the system in applying the applicable trust services criteria are embodied in its service commitments and system requirements relevant to the applicable trust services criteria. The principal service commitments and system requirements related to the applicable trust services criteria are presented in attachment B.

There are inherent limitations in any system of internal control, including the possibility of human error and the circumvention of controls. Because of these inherent limitations, a service organization may achieve reasonable, but not absolute, assurance that its service commitments and system requirements are achieved.

We assert that the controls within the system were effective throughout the period April 1, 2022, to March 31, 2023, to provide reasonable assurance that Alberta Energy's service commitments and system requirements were achieved based on the applicable trust services criteria.

Government of Alberta, Business Technology Operations

Carol Sokolowski

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May 26, 2023

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Independent Service Auditors

To: The Government of Alberta, Business Technology Operations

Scope

We have examined the Government of Alberta (GoA) accompanying assertion titled “Assertion by Management of the Government of Alberta, Business Technology Operations” (assertion), that the controls within the ETS System (ETS or System) were effective throughout the period April 1, 2022, to March 31, 2023, to provide reasonable assurance that GoA’s principal service commitments and system requirements were achieved based on the trust services criteria relevant to security, availability, processing integrity, and confidentiality (applicable trust services criteria) set forth in TSP section 100, *2017 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy*, in AICPA, *Trust Services Criteria*.

Service organization’s responsibilities

GoA is responsible for its service commitments and system requirements and for designing, implementing, and operating effective controls within the system to provide reasonable assurance that GoA’s service commitments and system requirements were achieved. GoA has also provided the accompanying assertion about the effectiveness of controls within the system. When preparing its assertion, GoA is responsible for selecting, and identifying in its assertion, the applicable trust services criteria and for having a reasonable basis for its assertion by performing an assessment of the effectiveness of the controls within the system.

Service auditor’s responsibilities

Our responsibility is to express an opinion, based on our examination, on management’s assertion that controls within the system were effective throughout the period to provide reasonable assurance that the service organization’s service commitments and system requirements were achieved based on the applicable trust services criteria. Our examination was conducted in accordance with attestation standards established by the AICPA. Those standards require that we plan and perform our examination to obtain reasonable assurance about whether management’s assertion is fairly stated, in all material respects. We believe that the evidence we obtained is sufficient to provide a reasonable basis for our opinion.

We are required to be independent and to meet our other ethical responsibilities in accordance with

relevant ethical requirements relating to the engagement.

Our examination included:

- Obtaining an understanding of the system and the service organization’s service commitments and system requirements;
- Assessing the risks that controls were not effective to achieve GoA’s service commitments and system requirements based on the applicable trust services criteria; and
- Performing procedures to obtain evidence about whether controls within the system were effective to achieve GoA’s service commitments and system requirements based on the applicable trust services criteria.

Our examination also included performing such other procedures as we considered necessary in the circumstances.

Inherent Limitations

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls.

Because of their nature, controls may not always operate effectively to provide reasonable assurance that the service organization’s service commitments and system requirements were achieved based on the applicable trust services criteria. Also, the projection to the future of any conclusions about the effectiveness of controls is subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies and procedures may deteriorate.

Opinion

In our opinion, management’s assertion that the controls within Alberta Energy’s ETS system were effective throughout the period April 1, 2022, to March 31, 2023, to provide reasonable assurance that GoA’s service commitments and system requirements were achieved based on the applicable trust services criteria is fairly stated, in all material respects

GRANT THORNTON LLP



Chartered Professional Accountants

Edmonton, AB

May 26, 2023

Attachment A:

Alberta Energy's Description of the Boundaries of the Electronic Transfer System (ETS)

Services Provided

The Electronic Transfer System (ETS) is a secure web application that provides access to a number of the information products available from Alberta Energy. The ETS application receives and validates requests from authorized users for the different services provided by the system. ETS passes the requests on to other systems and receives responses after the processing of the request. This response stays in ETS for a designated period of time based on the type of information.

When a company submits an application for access to ETS, Alberta Energy creates an administrative account (manually or automated) for the company and gives them access to the various services that can be performed on ETS, including:

- Correspondence - Correspondence enables Oil Sands Royalty clients to send and receive data from Alberta Energy through a secure connection. It is also used by clients to send Agent Forecast Data to Alberta Energy.
- Crown PNG (Petroleum and Natural Gas) and Oil Sands Agreement Documents - Designated Representatives can download Agreement documents created from the PNG and Oil Sands Public Offering.
- Assignment of Alberta Environment and Parks (AEP) and Alberta Energy Regulator (AER) Public Lands Surface Dispositions - Assignment facilitates the electronic assignment of surface dispositions issued under the Public Lands Act within the Province of Alberta. Assignments encompass all transactions, documents, and data exchanges associated with the assignment of the disposition holder's interest in the surface disposition to another party.
- Bidding - Bidding enables clients to acquire Oil Sands and/or Petroleum and Natural Gas rights through an electronic bidding process. Clients are able to select the parcels offered for sale and, if interested in acquiring the rights, submit bid requests for a Public Offering using ETS.
- Freehold Mineral Tax - Freehold Mineral Tax enables clients to query their own freehold production entity data, add and delete Lessees, transfer Lessee roles, download unit values and submit unit values.
- Monthly Statements - Monthly Statements (Surface and Mineral Rental) are published into ETS when available. Mineral/Surface clients can print/save the Monthly Statement, change the payment method to auto debit, and add additional charges to the automatic withdrawal.
- Pipeline In-Stream Form Submissions - Clients can submit certain data files to Alberta Energy electronically using ETS. The submissions are verified by ETS, and clients are sent a confirmation email about processing status.

- Posting - Posting enables clients to apply for Oil Sands and PNG rights through an electronic disposition request. Clients can query mineral rights availability and submit posting requests for a Public Offering and Direct Purchase.
- Searches - Searches enables clients to request a variety of reports that show status information on Crown surface land and Crown minerals in the Province of Alberta.
- Transfers Ownership and/or Designated Representative - Transfer facilitates all transactions, documents and data exchanges associated with the Crown registration of the transfer of the owner's interest in the mineral rights to another party, and Designated Representative changes.
- Oil Sands - Oil Sands enables oil sands operators to create and submit Oil Sands Royalty (OSR) Project applications and submit royalty and supplemental reporting information to Alberta Energy. It also enables operators to receive information reports on their submissions to help them manage the oil sands reporting process.
- Offset - Offset management gives clients the ability to respond to offset notices, request reviews and submit information and data for "well on production" responses. Clients are also able to retrieve their monthly Offset Statement of Account.
- Crown Mineral Activity - Crown Mineral Activity enables clients to submit applications for undisposed crown minerals, re-entries to existing wellbores and linking wells to existing Crown agreements. Clients can also submit or concur to authorizations of agreements and wells for these purposes.
- PNG Continuation - PNG Continuation enables a company to fill in and submit an Online Application via ETS for validation or continuation or to submit an Expiry Reinstatement request. Clients can create and submit a new application or request, amend an application, respond to an offer, and retrieve final documents. Clients can also request or grant authorization for agreements, wells, and data as required. PNG Continuation also enables a company to submit third-party requests via ETS for review of non-productivity. Clients can create and submit a request and retrieve response documents.
- Unit Agreement Exhibit A - Unit Agreement Exhibit A enables Unit Operators to revise and/or correct an Exhibit A and change unit operatorship to an active unit agreement online via ETS. Unit Operators and Working Interest Owners can also submit a report request and view the Exhibit A revision report online.
- Agreement Management - Agreement Management enables clients to fill in and submit an Online Application via ETS for surrenders and rental reinstatements. Clients can create and submit a new request, withdraw an existing request, and retrieve final documents. Clients can also request or grant authorization for agreements as required. Agreement Management also enables a company to receive electronic notification of rental and royalty defaults.
- Encumbrance - Alberta Energy administers a registry of security notices and builders' liens in

respect of encumbrances on Crown mineral rights agreements. The encumbrances may be registered on interests held by third parties (i.e., non-lessees) in the Crown mineral rights agreements. The ability to obtain certified copies of Encumbrances is also available here.

- Mineral Direct Purchase - Mineral Direct Purchase enables a client to submit an online application via ETS for metallic and industrial minerals and coal tenure. A client can create and submit a new application and retrieve department decisions and documentation. Mineral Direct Purchase also requires clients to pay the initial fee online via credit card upon submission.
- Mineral Direct Reporting - Mineral Royalty Reporting enables a client to submit online royalty reports via ETS for metallic and industrial minerals and coal. Clients can submit a royalty report, receive a turnaround report of accepted royalties, and receive notices.
- Air Data - Air Data enables clients to submit air reporting required by the Air Monitoring Directive.
- ETS allows oil field service contractors to submit Site Rehabilitation Program (SRP) grant applications to perform well, pipeline, and oil and gas site closure and reclamation work. ETS manages SRP application requests from submission to approval. In addition, ETS will allow oil field service controls to submit invoices for the work completed.
- APIP (Alberta Petrochemicals Incentive Program) Grants - The Electronic Transfer System (ETS) provides a single gateway for interested companies to apply for an APIP grant and provides the required information at different stages of the program. The ETS also enables Alberta Energy to review submitted applications and advance the application to the appropriate stage.
- Geothermal Application – Geothermal Application is used to submit applications/documentation for geothermal leases.
- Geothermal Agreement Management - Enables clients to submit an Online Application via ETS for surrenders, and rental reinstatements for geothermal agreements. Users may create and submit a new application request, withdraw an existing request, retrieve final documents and receive electronic notification for rental defaults. Users may also request or grant other authorization to act on their behalf.
- Geothermal Continuation - Geothermal Continuation enables a company to submit an Online Application via ETS for an intermediate or continued term agreement or a reinstatement. Users may create and submit a new application, respond to a notice, and retrieve final documents. Users may also request or grant other authorization to act on their behalf.

Infrastructure

ETS is a secured web application. The ETS web application uses Active Directory Service (ADS). There are three separate environments for development, acceptance testing, and production. All security zones related to the Acceptance Test and Production environments are further isolated from one another at the network layer by two or more firewalls.

Software

ETS is a secured web application created in 1998 to meet Industry demand for the timely transfer of information between the Industry and Alberta Energy.

People

ETS is maintained on a daily basis by the Production Support Team and the Enterprise Operations and Infrastructure Team within Service Alberta. These teams provide for the proper operations and management of ETS on behalf of Alberta Energy and coordinate the effort in order to meet the daily requirements of the ETS application. These Team's responsibilities include:

- Responsibility for client relationships and client service;
- First point of contact for clients regarding their business needs and ETS application services;
- Communication, coordination, and facilitation between all stakeholders, including clients and other functional units;
- Evaluation of requirements with recommendations to address identified needs;
- Identification of the appropriate solution to meet specific business requirements;
- System development life cycle, from requirements definition and analysis, design and development, testing and implementation, through to enhancement and maintenance;
- Application development;
- Production application maintenance;
- Change management and control of applications;
- Product evaluations;
- Planning and management of projects, releases, resources, technical architecture, technical upgrades, application upgrades, and the associated long-term strategies;
- Ensuring systems availability meets and/or exceeds client's requirements; and
- Providing system contacts availability for client-determined hours.

Data

The ETS system was designed based on a need identified by industry to send and receive information to/from Alberta Energy electronically. Data is received by Alberta Energy from Industry in the form of a request or a transfer based on the functionality for which the client has applied. Data can also be requested by Industry and, after processing of the request, the response is delivered via a notification system. ETS is used for transfer of data/information, which is retained in ETS for only a designated period of time based on the type of information.

Processes and Procedures

On behalf of Alberta Energy, Service Alberta has in place security policies and procedures to prevent unauthorized users' entry into the ETS website where proprietary and non-public information is held. The

following network controls are in place: firewalls, change/configuration management, internetworking devices, remote connectivity, intrusion detection and prevention systems (IDS/IPS), third-party audits, third-party penetration testing, and Disaster Recovery Planning (DRP). The ETS web application and maintenance teams adopt practices for securing web applications as recommended by the "Open Web Application Security Project (OWASP)".

The Production Support Team and Enterprise Operations and Infrastructure Team implement the following Service Alberta procedures on behalf of Alberta Energy for the ETS web application:

- Systems development and maintenance;
- Security administration and monitoring;
- Security auditing and log analysis;
- Intrusion detection and security breaches;
- Data center operations and maintenance;
- Performance monitoring;
- Disaster recovery and prevention planning;
- Change management and issue tracking;
- Systems analysis and future planning;
- Business function analysis; and
- Feature planning.

Attachment B:

Alberta Energy's Principal Service Commitments and System Requirements for Electronic Transfer System (ETS)

Alberta Energy designed the processes and procedures related to ETS to promote development of Alberta's energy and mineral resources. Alberta Energy recommends and implements energy and mineral related policy, grants rights for exploration and development to industry and establishes/administers fiscal regimes and royalty systems. Those objectives are based on the service commitments that Alberta Energy makes to user entities, the laws and regulations that govern the provision of ETS services, and the financial and operational requirements that have been established to deliver those services.

Security, confidentiality, processing integrity and availability commitments to user entities are documented and communicated in the description of the service offerings provided online. These commitments are standardized and include, but are not limited to, the following:

- Security and confidentiality commitments:
 - Security principles implemented within ETS are designed to permit system users to access the information they need based on their role in the system, while restricting them from accessing information not needed for their roles.
 - Encryption technologies are used to protect the confidentiality of user data in transit.
 - ETS is used for the transfer of data/information, which is retained in ETS for only a designated period of time based on the type of information.
- Service provision and availability commitments: ETS may be unavailable Friday after 4:30 p.m. until 6:00 p.m. Sunday due to system maintenance. ETS is generally available at other times; however, technical support is only available during business hours, 8:15 AM - 4:30 PM Monday to Friday.
- Processing integrity commitments: ETS includes built-in edit and error checking to enable consistent and timely processing of data submissions.

Alberta Energy establishes operational requirements that support the achievement of security, confidentiality, processing integrity and availability commitments, relevant laws and regulations, and other system requirements. Such requirements are carried out by Service Alberta on behalf of Alberta Energy and communicated in Service Alberta and Alberta Energy system policies and procedures, system design documentation, and in relevant contracts and agreements.

Operational policies define an organization-wide approach to how systems and data are protected, administered, maintained and made available. These include policies around how the service is designed and developed, how the system is operated, how the system and network are managed, and how employees are hired and trained. In addition to these policies, standard operating procedures have been documented on how to carry out specific manual and automated processes required in the operation, development, and maintenance of ETS.