PROCEDURE

ieso
Connecting Today.
Powering Tomorrow.

Market Manual 1: Market Entry, Maintenance & Exit

Part 1.3: Identity Management Operations Guide

Issue 27.1

August 12, 2021

This guide describes the processes for Market Participants and the IESO to register for, initialize, change, and revoke User Accounts and request system access privileges required for access to IESO-secure Web servers.

Disclaimer

The posting of documents on this Web site is done for the convenience of *market participants* and other interested visitors to the *IESO* Web site. Please be advised that, while the *IESO* attempts to have all posted documents conform to the original, changes can result from the original, including changes resulting from the programs used to format the documents for posting on the Web site as well as from the programs used by the viewer to download and read the documents. The *IESO* makes no representation or warranty, express or implied that the documents on this Web site are exact reproductions of the original documents listed. In addition, the documents and information posted on this Web site are subject to change. The *IESO* may revise, withdraw or make final these materials at any time at its sole discretion without further notice. It is solely your responsibility to ensure that you are using up-to-date documents and information.

This *market manual* may contain a summary of a particular *market rule*. Where provided, the summary has been used because of the length of the *market rule* itself. The reader should be aware however; that where a *market rule* is applicable, the obligation that needs to be met is as stated in the "*market rules*". To the extent of any discrepancy or inconsistency between the provisions of a particular *market rule* and the summary, the provision of the *market rule* shall govern.

Document ID	IMP_GDE_0088
Document Name	Part 1.3: Identity Management Operations Guide
Issue	Issue 27.1
Reason for Issue	Issue released as part of Market Renewal Program: Batch 2 documents. Updated to include market power mitigation content.

Document Change History

Issue	Reason for Issue	Date
For change history prior to Issue 17.0, see Issue 21.0		
17.0	Revised for Verizon CA Renewal May 2010 in advance of Baseline 23.1	March 26, 2010
18.0	Revised for removal of requirements for PKI certificate login for Portal Transmission Rights Auction access	June 12, 2010
19.0	Revised for removal of all requirements for PKI certificates	September 12, 2012
20.0	Revised for addition of stronger authentication components, methods and content	March 6, 2013
21.0	Revised in advance of Baseline 31.0 for the change to the IESO's online registration business process management tool. As a replacement for the 1276 form.	February 14, 2014
22.0	Revised for Baseline 36.1 for changes within Online IESO for registration business processes, addition of new applications and replacement of market facing applications for Energy Market, Reliability Compliance, Outage Management and other web based functions.	December 7, 2016
23.0	Revised for Baseline 38.1 for changes to reflect the decommissioning of the Market Information Management *IESO* Development Kit (MIM IDK).	December 6, 2017
24.0	Revised for Baseline 41.0 regarding the removal of the need for a Java Runtime Environment (JRE) and java policy file for multiple file upload capability for the Portal.	March 6, 2019
25.0	Revised in advance of Baseline 42.1 to reflect changes as a result of the transition of the *demand response auction* to the *transitional capacity auction*	October 15, 2019
26.0	Updated to meet accessibility requirements pursuant to the *Accessibility for Ontarians with Disabilities Act*	November 3, 2020
27.0	Issue released in advance of Baseline 45.0. Updated to include electricity storage participation.	February 26, 2021
27.1	Issue released as part of Market Renewal Program: Batch 2 documents. Updated to include market power mitigation content.	August 12, 2021

Related Documents

Document ID	Document Title
IESO_GDE_0209	Portal Graphical User Interface User's Guide

(**This page must be removed before the document is released to the public. This section is only pertinent to *IESO* internal staff, not the public. **)

Document Control

Authorities

Prepared by	**Role**	**Signed & Dated**
Malcolm Dellow	Sr. Specialist, Business Service & Solution Delivery	

Owned by	**Role**	**Signed & Dated**
Bill Pettitt	Director, Business Service & Solution Delivery	

Reviewed by	**Role**	**Signed & Dated**
Malcolm Dellow	Sr. Specialist, Business Service & Solution Delivery	
Victor Buza	Sr. Counsel I, Legal Services	

Approved by	**Role**	**Signed & Dated**
Alex Foord	Chief Information Officer and Vice President, Information & Technology Services	

Distribution List

Name	**Organization**
Malcolm Dellow	Business Service & Solution Delivery
InfoGov	IESO – Information Governance

Table of Contents

Table of Contents 7
List of Figures iii
List of Tables vi
Table of Changes vii
1. Introduction 1
   1.1. Purpose 1
   1.2. Scope 2
   1.3. Who Should Use This Document 3
   1.4. Overview 3
   1.5. Assumptions and Limitations 5
   1.6. Conventions 5
   1.7. Document Organization 5
   1.8. Contact Information 6
2. Roles and Responsibilities of Identity Management Entities 7
3. Identity Trust Operational Model 9
   3.1. IESO Trust Model 9
   3.2. Identity Proofing 10
   3.3. Rights Administrator Model 10
4. Identity Management Procedural Work Flows 12
   4.1. Participant User Account Application Scenario 13
   4.2. Participant User Account Change Scenario 1 14
   4.3. Participant User Account Change Scenario 2 15
   4.4. Participant User Account Deactivation Scenario 16
   4.5. Participant User Account Recovery Scenario 1 17
   4.6. Participant User Account Recovery Scenario 2 18
   4.7. Participant Rights Administrator Enrolment Scenario 19
   4.8. Participant Rights Administrator User Account Change Scenario 1 20
   4.9. Participant Rights Administrator User Account Change Scenario 2 21
   4.10. Participant Rights Administrator Role Termination Scenario 22
   4.11. Subscriber User Account Initialization 23
   4.12. Periodic Update of Subscriber User Account Password 24
5. Participant Primary Contact Operational Guidelines 26
   5.1. Primary Contact Definition 26
   5.2. IESO Trust Model and Identity Credential Proofing 26
   5.3. Appointing a Rights Administrator 27
   5.4. Process to Register a Rights Administrator and Request an Account and System Access 27
   5.5. Requesting a Person's Rights Administrator Role Termination 27

5.6. Steps for Registering a Rights Administrator for Registration System Access and a User Account 28
6. Participant Rights Administrator Operational Guidelines 29
6.1. Rights Administrator Definition 29
6.2. Instructions for Using the IESO Registration System 29
6.3. IESO Trust Model and Guidelines for Proofing Credential Subscribers 29
6.4. Guidelines for Form Storage, Protection, and Archival 31
6.5. IESO Customer Relations Communications 31
6.6. Guidelines for Distributing and Using Identity Credential Activation Data 32
6.7. Person ID Number 34
6.8. Basic Trouble Shooting 34
7. Credential Subscriber Operational Guidelines 36
7.1. Introduction 36
7.2. IESO Trust Model and Identity Credential Proofing 37
7.3. Protection of Identity Credential Activation Data 37
7.4. Person ID Number 37
7.5. Password Creation Guidelines 38
7.6. Applying for an IESO Account 38
7.7. IESO Systems Access Requests 38
7.8. IESO Account Deactivation 39
7.9. IESO Account Change 39
7.10. Account Recovery 39
8. Use of the Online IESO Registration System 41
8.1. Introduction 41
9. Use of Account Provisioning Tools 77
9.1. Use of the Password Change & Reset Functions 77
10. Browser Use 101
10.1. Browser Versions 101
10.2. Java 2 Runtime Environment for the Portal with Internet Explorer 11 101
11. MIM Application Web Services 103
11.1. Introduction 103
11.2. Downloading the MIM Web Services Files 103
Appendix A: Account Management Procedural Steps 1
Appendix B: Glossary of Terms 1
Appendix C: List of Participations 1
References 1

List of Figures

List of Figures

Figure 4-1: Participant User Account Application Scenario 13
Figure 4-2: Participant User Account Change Scenario 1 14
Figure 4-3: Participant User Account Change Scenario 2 15
Figure 4-4: Participant User Account Deactivation Scenario 16
Figure 4-5: Participant User Account Recovery Scenario 1 17
Figure 4-6: Participant User Account Recovery Scenario 2 18
Figure 4-7: Participant Rights Administrator Enrolment Scenario 19
Figure 4-8: Participant Rights Administrator Account Change Scenario 1....20
Figure 4-9: Participant Rights Administrator Account Change Scenario 2....21
Figure 4-10: Participant Rights Administrator Role Termination Scenario 22
Figure 4-11: Subscriber Account Initialization....23
Figure 4-12: Periodic Renewal of User Account Password....24
Figure 8-1: Registration System Link in IESO Portal....42
Figure 8-2: Registration System Login Screen Example....43
Figure 8-3: Online IESO Applicant Representative - Actions Page....44
Figure 8-4: Online IESO Applicant Representative – Select Participation Type Page....44
Figure 8-5: Online IESO Applicant Representative – Select Participation Type Option....45
Figure 8-6: Online IESO Applicant Representative – Market Participation Type....45
Figure 8-7: Online IESO Applicant Representative – Market Participation Choices....45
Figure 8-8: Online IESO Applicant Representative – Choosing Capacity Auction Market Participation....46
Figure 8-9: Online IESO Applicant Representative – Participation Required Tasks....46
Figure 8-10: Online IESO Applicant Representative Update Organization Request Type 47
Figure 8-11: Online IESO Applicant Representative Update Contact Role(s) Update Type...47
Figure 8-12: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search 48
Figure 8-13: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search Results....49
Figure 8-14: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search Results 2....49

Figure 8-15: Online IESO Applicant Representative Update Contact Role(s) Selection for Selected Person 50
Figure 8-16: Online IESO Applicant Representative Update Contact Role(s) Added Person 51
Figure 8-17: Online IESO Applicant Representative Update Contact Role(s), Confirmation 52
Figure 8-18: Online IESO Applicant Representative Update Contact Role(s), Final Confirmation 52
Figure 8-19: Online IESO Applicant Representative Update Contact Role(s) Select Contact Role List 53
Figure 8-20: Online IESO Applicant Representative Update Contact Role(s) – Existing Contacts 54
Figure 8-21: Online IESO Applicant Representative Update Contact Role(s) – Existing plus New Contacts 54
Figure 8-22: Online IESO Applicant Representative Update Contact Role(s) – Primary Confirmation 55
Figure 8-23: Online IESO Registration System Rights Administrator Actions Page 56
Figure 8-24: Online IESO Registration System Normal Contact Actions Page 56
Figure 8-25: Choose an Organization Page 57
Figure 8-26: Select System Access Request Type Page 58
Figure 8-27: Select Account Type Page - Grant 58
Figure 8-28: Search for a Registered Person Page - Grant 59
Figure 8-29: Select a Registered Person Page - Grant 60
Figure 8-30: Register a New Person Page - Grant 62
Figure 8-31: Confirm New Person Registration Page - Grant 63
Figure 8-32: Select Access Roles to be Granted Page 64
Figure 8-33: Confirm Access Role(s) to be Granted Page 65
Figure 8-34: Select Access Roles to be Revoked Page 66
Figure 8-35: Confirm Access Role(s) to be Revoked Page 67
Figure 8-36: Select Machine Account Page - Grant 68
Figure 8-37: Select Machine Account Page - Revoke 69
Figure 8-38: Confirm Existing Machine Account Page - Grant 70
Figure 8-39: Create Machine Account for Access Role Grant Page 71
Figure 8-40: Select Access Role(s) to be Granted – Machine Account Page 72
Figure 8-41: Confirm Access Role(s) to be Granted – Machine Account Page 73
Figure 8-42: Choose an Action Page 74
Figure 8-43: Update Person Information Page 75

Figure 8-44: Confirm Person Information Page....75
Figure 9-1: Portal / Identity Management Login – User Account Name Entry....79
Figure 9-2: Portal / Identity Management Login – Password Entry....80
Figure 9-3: Portal / Identity Management Login – Password Reset....81
Figure 9-4: Portal / Identity Management Login – User Account Name and/or Password Error Message....82
Figure 9-5: Portal / Identity Management Login – Password Reset....83
Figure 9-6: Portal Identity Management Login Page – Change Password - Mismatch Error....84
Figure 9-7: Portal Identity Management Login Page – Change Password - Old Password Error....85
Figure 9-8: Portal Identity Management – Change Password Notification Email....86
Figure 9-9: Portal Identity Management Login Page – New Account Security Profile....87
Figure 9-10: Portal Identity Management Login Page – Login Technical Error....88
Figure 9-11: Security Profile – Choosing a Security Image and Phrase....89
Figure 9-12: Security Profile – Choosing Security Questions and Inputting Answers....90
Figure 9-13: Portal Identity Management Login Page - Forgot Password Option....91
Figure 9-14: User Account Password Reset - Security Question Challenge Example....92
Figure 9-15: User Account Password Reset – Invalid Answer Provided....93
Figure 9-16: User Account Password Reset – Account Locked....93
Figure 9-17: User Account Password - Reset Your Password – New Password Entry....94
Figure 9-18: User Account Password Reset Step 3 of 4 – Invalid New Password Entry....95
Figure 9-19: User Account Login – Welcome to your Portal Login Page Displayed....96
Figure 9-20: Typical Portal Home Page with Security Profile Tab....97
Figure 9-21: Portal Security Profile Page - Personal Image and Phrase Preferences....98
Figure 9-22: Portal Security Profile Page – Security Questions....99
Figure 9-23: Portal Security Profile Page – Change Your Password....99

Figure 4-1: Participant User Account Application Scenario....13
Figure 4-2: Participant User Account Change Scenario 1....14
Figure 4-3: Participant User Account Change Scenario 2....15
Figure 4-4: Participant User Account Deactivation Scenario....16
Figure 4-5: Participant User Account Recovery Scenario 1....17
Figure 4-6: Participant User Account Recovery Scenario 2....18
Figure 4-7: Participant Rights Administrator Enrolment Scenario....19

Figure 4-8: Participant Rights Administrator Account Change Scenario 1.....20
Figure 4-9: Participant Rights Administrator Account Change Scenario 2.....21
Figure 4-10: Participant Rights Administrator Role Termination Scenario 22
Figure 4-11: Subscriber Account Initialization.....23
Figure 4-12: Periodic Renewal of User Account Password.....24
Figure 8-1: Registration System Link in IESO Portal.....42
Figure 8-2: Registration System Login Screen Example.....43
Figure 8-3: Online IESO Applicant Representative - Actions Page.....44
Figure 8-4: Online IESO Applicant Representative – Select Participation Type Page.....44
Figure 8-5: Online IESO Applicant Representative – Select Participation Type Option.....45
Figure 8-6: Online IESO Applicant Representative – Market Participation Type.....45
Figure 8-7: Online IESO Applicant Representative – Market Participation Choices.....45
Figure 8-8: Online IESO Applicant Representative – Choosing Capacity Auction Market Participation.....46
Figure 8-9: Online IESO Applicant Representative – Participation Required Tasks.....46
Figure 8-10: Online IESO Applicant Representative Update Organization Request Type 47
Figure 8-11: Online IESO Applicant Representative Update Contact Role(s) Update Type...47
Figure 8-12: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search 48
Figure 8-13: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search Results.....49
Figure 8-14: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search Results 2.....49
Figure 8-15: Online IESO Applicant Representative Update Contact Role(s) Selection for Selected Person.....50
Figure 8-16: Online IESO Applicant Representative Update Contact Role(s) Added Person .51
Figure 8-17: Online IESO Applicant Representative Update Contact Role(s), Confirmation..52
Figure 8-18: Online IESO Applicant Representative Update Contact Role(s), Final Confirmation 52
Figure 8-19: Online IESO Applicant Representative Update Contact Role(s) Select Contact Role List 53
Figure 8-20: Online IESO Applicant Representative Update Contact Role(s) – Existing Contacts 54
Figure 8-21: Online IESO Applicant Representative Update Contact Role(s) – Existing plus New Contacts.....54

Figure 8-22: Online IESO Applicant Representative Update Contact Role(s) – Primary Confirmation 55
Figure 8-23: Online IESO Registration System Rights Administrator Actions Page 56
Figure 8-24: Online IESO Registration System Normal Contact Actions Page 56
Figure 8-25: Choose an Organization Page 57
Figure 8-26: Select System Access Request Type Page 58
Figure 8-27: Select Account Type Page - Grant 58
Figure 8-28: Search for a Registered Person Page - Grant 59
Figure 8-29: Select a Registered Person Page - Grant 60
Figure 8-30: Register a New Person Page - Grant 62
Figure 8-31: Confirm New Person Registration Page - Grant 63
Figure 8-32: Select Access Roles to be Granted Page 64
Figure 8-33: Confirm Access Role(s) to be Granted Page 65
Figure 8-34: Select Access Roles to be Revoked Page 66
Figure 8-35: Confirm Access Role(s) to be Revoked Page 67
Figure 8-36: Select Machine Account Page - Grant 68
Figure 8-37: Select Machine Account Page - Revoke 69
Figure 8-38: Confirm Existing Machine Account Page - Grant 70
Figure 8-39: Create Machine Account for Access Role Grant Page 71
Figure 8-40: Select Access Role(s) to be Granted – Machine Account Page 72
Figure 8-41: Confirm Access Role(s) to be Granted – Machine Account Page 73
Figure 8-42: Choose an Action Page 74
Figure 8-43: Update Person Information Page 75
Figure 8-44: Confirm Person Information Page 75
Figure 9-1: Portal / Identity Management Login – User Account Name Entry 79
Figure 9-2: Portal / Identity Management Login – Password Entry 80
Figure 9-3: Portal / Identity Management Login – Password Reset 81
Figure 9-4: Portal / Identity Management Login – User Account Name and/or Password Error Message 82
Figure 9-5: Portal / Identity Management Login – Password Reset 83
Figure 9-6: Portal Identity Management Login Page – Change Password - Mismatch Error .84
Figure 9-7: Portal Identity Management Login Page – Change Password - Old Password Error 85
Figure 9-8: Portal Identity Management – Change Password Notification Email 86

Figure 9-9: Portal Identity Management Login Page – New Account Security Profile 87
Figure 9-10: Portal Identity Management Login Page – Login Technical Error 88
Figure 9-11: Security Profile – Choosing a Security Image and Phrase.....89
Figure 9-12: Security Profile – Choosing Security Questions and Inputting Answers.....90
Figure 9-13: Portal Identity Management Login Page - Forgot Password Option 91
Figure 9-14: User Account Password Reset - Security Question Challenge Example 92
Figure 9-15: User Account Password Reset – Invalid Answer Provided.....93
Figure 9-16: User Account Password Reset – Account Locked.....93
Figure 9-17: User Account Password - Reset Your Password – New Password Entry 94
Figure 9-18: User Account Password Reset Step 3 of 4 – Invalid New Password Entry 95
Figure 9-19: User Account Login – Welcome to your Portal Login Page Displayed.....96
Figure 9-20: Typical Portal Home Page with Security Profile Tab.....97
Figure 9-21: Portal Security Profile Page - Personal Image and Phrase Preferences 98
Figure 9-22: Portal Security Profile Page – Security Questions 99
Figure 9-23: Portal Security Profile Page – Change Your Password.....99

List of Tables

Table 2-1: Identity Management Roles and Responsibilities 7
Table 4-1: Legend for Work Flow Diagrams 12
Table A-1: Participant User Account Application Scenario Task Details 1
Table A-2: Account Change Scenario 1 Task Details 3
Table A-3: Participant User Account Change Scenario 2 Task Details 5
Table A-4: Participant User Account Deactivation Scenario Task Details 7
Table A-5: Participant User Account Recovery Scenario 1 Task Details 9
Table A-6: Account Recovery Scenario 2 Task Details 11
Table A-7: Rights Administrator Enrolment Scenario Task Details 13
Table A-8: Rights Administrator Change Scenario 1 Task Details 15
Table A-9: Participant Rights Administrator Account Change Scenario 2 Task Details 17
Table A-10: Participant Rights Administrator Role Termination Scenario Task Details 19
Table A-11: Credential Subscriber, Account Initialization Task Details 21
Table A-12: Update of Account Passwords 23

Table of Changes

Reference (Section and Paragraph)	Description of Change
Throughout	Added reference to electricity storage participation where required.

1. Introduction

1.1. Purpose

The "Identity Management Operations Guide" describes the various processes for user provisioning and identity management that are employed to manage users regarding registration, authentication, authorization of access permissions to the various market systems, self-service, as well as disabling and termination of user accounts. This guide provides information on identity management processes for the market systems.

Included is the definition of what provisioning and identity management are, the detailed *participant* guidelines for dealing with provisioning and Identity Management, and the guidelines for *participant* management of user accounts and identity credentials throughout their lifecycle.

Each individual within an organization participating in the *IESO-administered markets* must possess valid and appropriate user identity credentials such as a User Account / password for proper authentication and access to *IESO*-secure Web servers and or Web Services. Activities for which access to *IESO*-secure Web servers or Web Services is required include, but are not limited to, the following:

- Accessing the Energy Market Interface system for;
    - Entering *bid*s/*offer*s
- Accessing the *IESO* Portal for;
    - Participating in transmission rights auctions;
    - Accessing *settlement* and *invoice* data;
    - Accessing various Collaboration communities such as the SOE LDC Extranet
- Accessing the Confidential and Public Reports system (IESO Reports Site);
- Accessing the Meter Trouble Reporting (MTR) via Online IESO;
- Accessing the Notice of Disagreement (NOD) via Online IESO;
- Accessing the Reliability Compliance System via Online IESO;
- Accessing the Prudential system via IESO Online;
- Accessing the Capacity Auction via Online IESO;
- Accessing the Energy Limited Forecast system via Online IESO;
- Accessing the Outage Management system and
- Accessing the Registration system via Online IESO:

- By individual users for managing their own person information and accessing market functionality;
- By organizations' Rights Administrators and Applicant Representatives to register for, initialize, change, and revoke user accounts and register contact roles and request system access privileges required for access to IESO-secure Web servers for people within their organizations.
- By organizations' Applicant Representatives to register Facilities and Equipment associated to their organizations.

IESO web servers, systems, and business processes shall in most cases require the use of appropriate user identity credentials (e.g. User Account / Password) for authentication and authorization purposes.

An organization must have applied for authorization to participate in the *IESO-administered markets* or applied for *Metering Service Provider* (MSP) registration before its employees or representatives can apply for their user account / identity credentials. See "Market Manual 1: Market Entry, Maintenance & Exit, Part 1.1: Participant Authorization, Maintenance & Exit, or the Market Manual 3: Metering, Part 3.1: Metering Service Provider Registration, Revocation, and De-registration".

1.2. Scope

This document will help to guide the actions taken by the *participants* regarding user provisioning and identity credentials, such as user registration and other related processes including those for User Account / password for users under their span of control. The document provides the *participant* with the *IESO* approved Identity Proofing options, different provisioning and identity management process scenarios, as well as the Operational Guidelines for the Primary Contact and the Rights Administrator. This document explains the following:

- What user provisioning and identity management is and why it is necessary;
- What user accounts / credentials are and what forms they can or may take;
- The standards employed for user accounts / credentials;
- Roles and Responsibilities of identity management entities;
- *IESO* approved Identity Proofing Model;
- How provisioning for user accounts / credentials and system access control works within identity management regarding:
  - What delegated user administration is and how it is used;
  - How to make authorized requests for a user account / credentials;
  - How to initialize various user credentials;

- How to request changes affecting a user account / credentials;
- How to reset and or change a User Account's password and answers to security questions where applicable;
- The conditions under which a user credential may be revoked;
- How to apply for a deactivation or termination of user account / credentials;
- How to obtain and learn about the MIM Web Services package.

1.3. Who Should Use This Document

This document is intended for *participant* individuals, i.e. Primary Contacts and Rights Administrators who will be involved in the provisioning of users and identity management for the management of user accounts / credentials. This document was designed so that the Primary Contact Operational Guidelines; the Rights Administrator Operational Guidelines; the Individual Subscriber Operational Guidelines, could be separated out and delivered to the appropriate individuals fulfilling those roles.

1.4. Overview

Information security is a priority for organizations that conduct communications and business transactions via the Internet. Identity Management, including user provisioning, is a set of processes used for managing authentication, authorization and access to information systems. Identity management means ensuring that only the intended users have the required credentials, access and the correct level of privileges to secured information. Identity management deals with credentials such as User Account / Password and security questions and information.

Provisioning is the set of identity management processes and tools used for actually defining and securing proper access credentials and privileges to users. This includes the use of tools and activation codes, information or temporary passwords supplied during the registration process to provide for online initialization of the credentials as well as password changes, password reset, credential recovery, credential renewal etc.

To ensure security and confidentiality, identity credential rules around things like password construction and use need to be enforced. This means strong passwords (i.e. eight characters or more, upper and lower case plus numeric and special characters). Regular password changes may also be required but where not, are recommended, typically every 90 days and reuse of old passwords is prohibited.

1.4.1. Provisioning, Identity Management, the IESO and the Participant

The *IESO* identity management trust model provides for the *participant* organization to assume most of the responsibilities of identity management in regards to the proofing of individuals and handling of end user credentials. Please reference the "Identity Trust

Operational Model" in Section 3 to gain a better understanding of the *IESO* approved identity proofing model.

1.4.2. User Account Identity Credentials

The *IESO* employs User Accounts (in combination with passwords). User Accounts issued with the identity management system shall adhere to *IESO* global naming conventions and be enforced / validated during provisioning. Unique user identifiers shall remain permanently tied to an individual or machine/application account and to no other. This reduces the risk that any new *participant'* employees, service providers etc. will receive inadvertent erroneous access to confidential market systems, resources or information. Account rationalization to all market systems at the *IESO* has been essentially realized. Only one credential set will be issued to any given person where possible. This shall mean that at most, a user will receive one personal User Account where feasible.

The *market rules* governing the *IESO* and *participants* require that the *IESO* provide access control for confidentiality of information over electronic communications. The use of identity management processes, including available user provisioning tools, to supply User Accounts allows the *IESO* to fulfill the appropriate *market rules* governing confidentiality. Properly managed User IDs can be used to establish authentication, authorization, and integrity.

Before receiving any *IESO* identity credential, *participant* individuals should be positively identified by their organization through a secure method of authentication, as an individual or application user is bound to the credential appropriately issued to them. Each user account / credential when issued will be registered to an individual person and as such these people are known as 'Credential Subscribers'. *Participant* Credential Subscribers may be one of the following:

a. Authorized Representatives
b. Primary Contacts
c. Rights Administrators
d. Individual Subscriber, (For a User Account, access up to and including transaction level systems and information by a person) for access to IESO market facing systems as one or more of the contact roles listed in Appendix B.
e. Application Subscriber (machine account; access up to and including transaction level systems and information by a computer application)

Each Authorized Representative, Primary Contact and Rights Administrator shall be issued a User Account for access to the Registration system and for other IESO transaction system level access where applicable by the person's roles.

For the typical Individual Subscriber (and where required an Application Subscriber) a User Account credential and password will be issued upon authorized registration for access to the appropriate systems and applications. A temporary password shall be supplied in conjunction with the User Account credential for a User account for the *IESO* Portal, Report

site, Energy Market Interface, Outage Management system, Online IESO system for, Registration and other application purposes or where applicable Web Services. The temporary password as indicated above needs to be replaced with one of their choosing by the end user by initially logging into the IESO Portal. The temporary password will expire automatically after approximately two weeks during which time the end user can update it via Portal login. After the temporary password expires, a request to IESO Customer Relations will be required to issue a new temporary password.

Upon initial login to the Portal, the user shall be required to reset their password using an online web provisioning process and to select a security image and phrase as well as choose 5 security questions and answers. The chosen security image and phrase will be presented to the user on each login to the Portal, Energy Market Interface and Outage Management system to provide confidence that the authentic IESO system is being connected and logged in to. The 5 security questions and answers selected by the user shall be usable to confirm the user's identity as required under circumstances where that identity is suspect. This would include logging in from different workstations, odd times of day compared to the user's normal practices etc. so the user should not be surprised to see the security questions presented during login even when the correct password has been entered. The same security questions and answers will also be used to permit the users to reset their own passwords if forgotten during login. The Portal's reset password procedure shall ensure that the password the user chooses meets *IESO* global security policies and standards. Any replacement passwords if and when required shall meet the same security policies and standards. The user shall after login to the Portal, be able to change their password as well on the 'Security Profile' web page in the Portal. The link for the Security Profile web page is available within the Portal's community pages.

A person's user account is common to the Portal, Online IESO, Energy Market Interface, Outage Management System and Reports site. This means the same account UserID and enduring password is used for access to each system.

Individual persons and *participant* programmatic applications (represented by a custodian) accessing the appropriate market systems will use these types of credentials.

1.5. Assumptions and Limitations

None.

1.6. Conventions

The market manual standard conventions are as defined in the 'Market Manual Overview' document.

1.7. Document Organization

1. Introduction

2. Roles and Responsibilities of Identity Management Entities
3. Identity Proofing Operational Models
4. Identity Management Procedural Work Flows
5. Primary Contact Operational Guidelines
6. Rights Administrator Operational Guidelines
7. Credential Subscriber Operational Guidelines
8. Identity Management Procedural Steps (Appendix A)

1.8. Contact Information

If the *participant* wishes to contact the *IESO*, the *participant* can contact the *IESO* Customer Relations via email at customer.relations@*IESO*.ca or via telephone, mail or courier to the numbers and addresses given on the *IESO*'s Web site (www.*IESO*.ca) or click on 'Have a question?' to go to the 'Contacting the *IESO*' page. If *IESO* Customer Relations is not available, telephone messages or emails may be left in relevant voice or electronic *IESO* mail boxes, which will be answered as soon as possible by Customer Relations Staff.

– End of Section –

2. Roles and Responsibilities of Identity Management Entities

Table 2-1: Identity Management Roles and Responsibilities

Title	Description	
IESO		
IESO ITOPS Customer Support	*IESO* ITOPS Customer Support is responsible for managing credential issuance, user name changes and credential deactivation requests using appropriate tools and procedures, (i.e. for processing requests to *IESO* systems administrators).	
IESO Customer Relations	*IESO* Customer Relations is responsible for managing credential recovery requests using appropriate tools and procedures.	
Participant		
Participant Organization	An organizational entity defined for use of an *IESO* service. Its employees, who possess *IESO* User Accounts, are referred to as Participant Individual Subscribers or Participant Application Subscribers. Participant roles available for market activities are listed in Appendix C.	
Authorized Representative	A senior officer at a Participant Organization who can authorize one or more officers (i.e., a high-level employee) of the Participant Organization to perform the responsibilities of a Primary Contact regarding Rights Administrator registration for Identity Management.	
Primary Contact	Any officer of a Participant Organization who is authorized by an Authorized Representative to register Rights Administrators for identity management services on behalf of the Participant Organization. The Primary Contact designates and delegates the role of the Rights Administrator via the Online IESO Registration system This shall be done during	

Title	Description	
	initial registration or any time after, if not already done and for any subsequent changes to Rights Administrators.	
Rights Administrator	An employee of the participant Organization that is authorized to perform the face-to-face proofing of participant individuals requesting an *IESO* User Account and submitting Online IESO registration information for the granting, change, and revocation of all user accounts and system access privileges required for access to *IESO*-secure Web servers for people within their own organizations. As a trusted entity in the *IESO* Identity Management, a Rights Administrator attests to the *IESO* that the Individual Subscriber or Application Subscriber is who they say they are.	
Individual Subscriber	Individual that works for a participant Organization that interacts with one or more of the *IESO* information systems and possesses an *IESO* User Account for individual use or submits IESO identity and system access management requests regarding an *IESO* User Account via the Rights Administrator.	
Application Subscriber	An individual that works for or represents a participant Organization and is responsible for managing an *IESO* User Account assigned to an application. Possesses an *IESO* User Account for application use (custodian) or submits *IESO* identity and system access management requests regarding an *IESO* User Account.	
General Terms		
Credential Subscriber	General term for any *IESO* identity management end entities. Any entity who applies for or possesses any type of identity credential	

– End of Section –

3. Identity Trust Operational Model

3.1. IESO Trust Model

The trust model is an abstract delegation construct by which the IESO assigns access rights to persons to connect to and use information and systems provided by the IESO, while maintaining the ability to hold those persons legally accountable for misuse or misconduct with those access rights.

We maintain this trust model to protect against two types of risk:

1. Use of granted access rights causes harm to the *IESO*, another participant, or any stakeholder of the *IESO* Administered markets. The ability to legally seek redress is the mitigation of this risk.
2. Use of granted access rights causes harm to the participant organization itself. The trust model and the audit records we keep of the trust model protect *IESO* against legal liability from the organization for misuse of access rights.

From before market opening in May 2002, the *IESO* has maintained a trust model to delegate access rights. The original trust model was supported by technical controls provided by expensive and administratively burdensome Public Key Infrastructure (PKI) technologies. The use of PKI technologies was discontinued in 2012 which reduced costs extensively, but administrative burden to a lesser degree. The roles associated with the obsolete PKI trust model were essentially continued although the processes to grant and revoke access rights remained quite manual.

With the new registration processes, the IESO is enabling business process automation and removing a great deal of administrative burden for the participants. To do so, it needed to establish a new and simpler trust model entirely divorced from the PKI legacy and streamlined to be automated and supported by the BPMS tools.

In the new trust model for management of access rights, Authorized Representatives are at the top of the hierarchy, next are Primary Contacts, next are Rights Administrators, and last are the custodians or holders of an account with rights to access information held by the IESO or exercise functionality offered by IESO systems.

Authorized Representative is a role given to persons who have the authority to legally bind their organizations. This role group is established for the *Participant* when the Participation Agreement is signed, and the signatory becomes the first and original Authorized Representative for their organization. The Authorized Representative may, and is encouraged to, delegate additional Authorized Representatives so that a single individual departing the organization does not leave the Authorized Representative role group for their organization empty, thus breaking the trust model and the risk mitigation that provides.

Should this happen, a new first and original Authorized Representative must be established for their organization, and the IESO requires a letter and signature of this person to accomplish this.

Authorized Representatives have one specific responsibility in the trust model, and that is assigning Primary Contacts for their organization. Primary Contacts have the responsibility to be the primary point of contact between the IESO and their organization, but within the trust model, their primary responsibility is to assign Rights Administrators and assign additional Primary Contacts. The Authorized Representatives will be asked to establish new Primary Contacts should the Primary Contact role group become vacant for an organization.

Rights Administrators have responsibilities entirely within the scope of the trust model. Those responsibilities are to assign access rights to persons to connect to and use information and systems provided by the IESO. The scope of access rights available to be assigned are defined by the IESO, and entirely based upon the market, program and service provider participations requested by or authorized to that organization. The Primary Contacts will be asked to establish new Rights Administrators should the Rights Administrator role group become vacant for an organization.

Custodians of accounts have responsibilities to conduct the business of their organization and the IESO using the access rights assigned to the accounts they hold. Their responsibility in the trust model is to neither share their account or the account's credentials nor the misuse the account to cause harm to their organization, the IESO, or stakeholders of the IESO.

3.2. Identity Proofing

There is no requirement by the *IESO* for identity proofing of Primary Contacts, Rights Administrators or persons acting in other roles although it is prudent that *participants* do so.

It is up to the *participant* to determine and employ the identity procedures that best fits within their own policies. Identity proofing an individual is the process of authenticating that an individual is who he or she claims to be. The process for determining that an individual is who he/she says he/she is may vary, but a generally accepted and recommended practice is for the *participant* to compare at least two of the individual's credentials with the physical characteristics of the individual in a face-to-face meeting. An example of this would be for the independent individual to review the Passport and Driver License of the individual and compare the photos with the person present. Additionally, the independent party may ask the individual to sign his name and compare the signed signature with the one on the Passport and Driver's License.

3.3. Rights Administrator Model

This model is the only one going forward. Its use via the Online IESO Registration system reduces administrative overhead for all concerned.

In this model the *participant* has an employee that is authorized as the Rights Administrator to manage user accounts of Individual Subscribers or Application Subscribers (Custodian person). A Primary Contact is an employee of the *participant* responsible for validating the identity and credentials of Rights Administrator and registering that person in that role for the *participant* via the Online IESO Registration system.

Individual Subscribers and Application Subscribers applying for a User Account will do so via the Rights Administrator who will use the Online IESO Registration system to submit a request for user accounts for those persons.

The Rights Administrator is responsible for handling all user account requests other than Primary Contacts and Authorized Representatives. This includes the User Account issuance and system access role requests, user credential changes and deactivation requests and User Account password reset requests.

– End of Section –

4. Identity Management Procedural Work Flows

The following diagrams represent the flow of work and information relating to the Identity Management procedures among the *IESO*, and external *participant* involved in the procedure.

The steps illustrated in the diagrams are described in detail in Appendix A.

Table 4-1: Legend for Work Flow Diagrams

Legend	Description
Oval	An event that triggers a task or that completes a task. Trigger events and completion events are numbered sequentially within procedure (01 to 99).
Task Box	Shows reference number, the party responsible for performing task (if "other party"), and the task name or brief summary of the task. Reference number (e.g., 1A.02) indicates procedure number within the current *Market Manual* (1), sub-procedure identifier (if applicable) (e.g. A, AA), and the task number (02).
Solid horizontal line	Shows the information flow between the *IESO* and external parties.
Solid vertical line	Shows the linkage between tasks.
Broken line	Links trigger events and completion events to the preceding or succeeding task.

4.1. Participant User Account Application Scenario

In this scenario, a *participant* employee or contractor applies for a user account and participant contact roles and/or system access roles / permissions via the *participant* Rights Administrator.

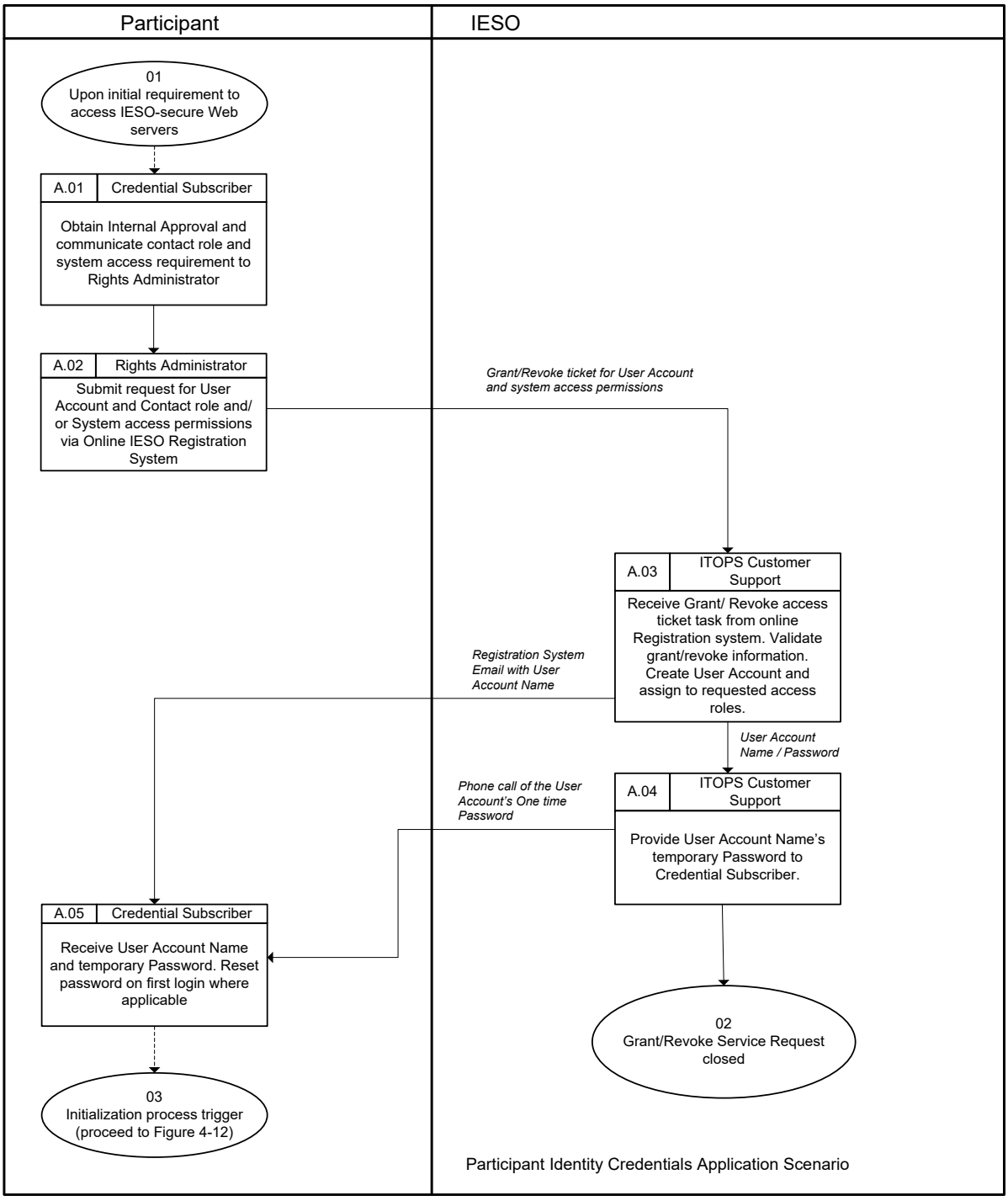


Figure 4-1: Participant User Account Application Scenario

4.2. Participant User Account Change Scenario 1

In this scenario, an existing Individual Subscriber or Application Subscriber applies for a change that does not impact identity credentials directly but does involve granting or revoking one or more participant contact roles and/or system access roles / permissions via a Rights Administrator.

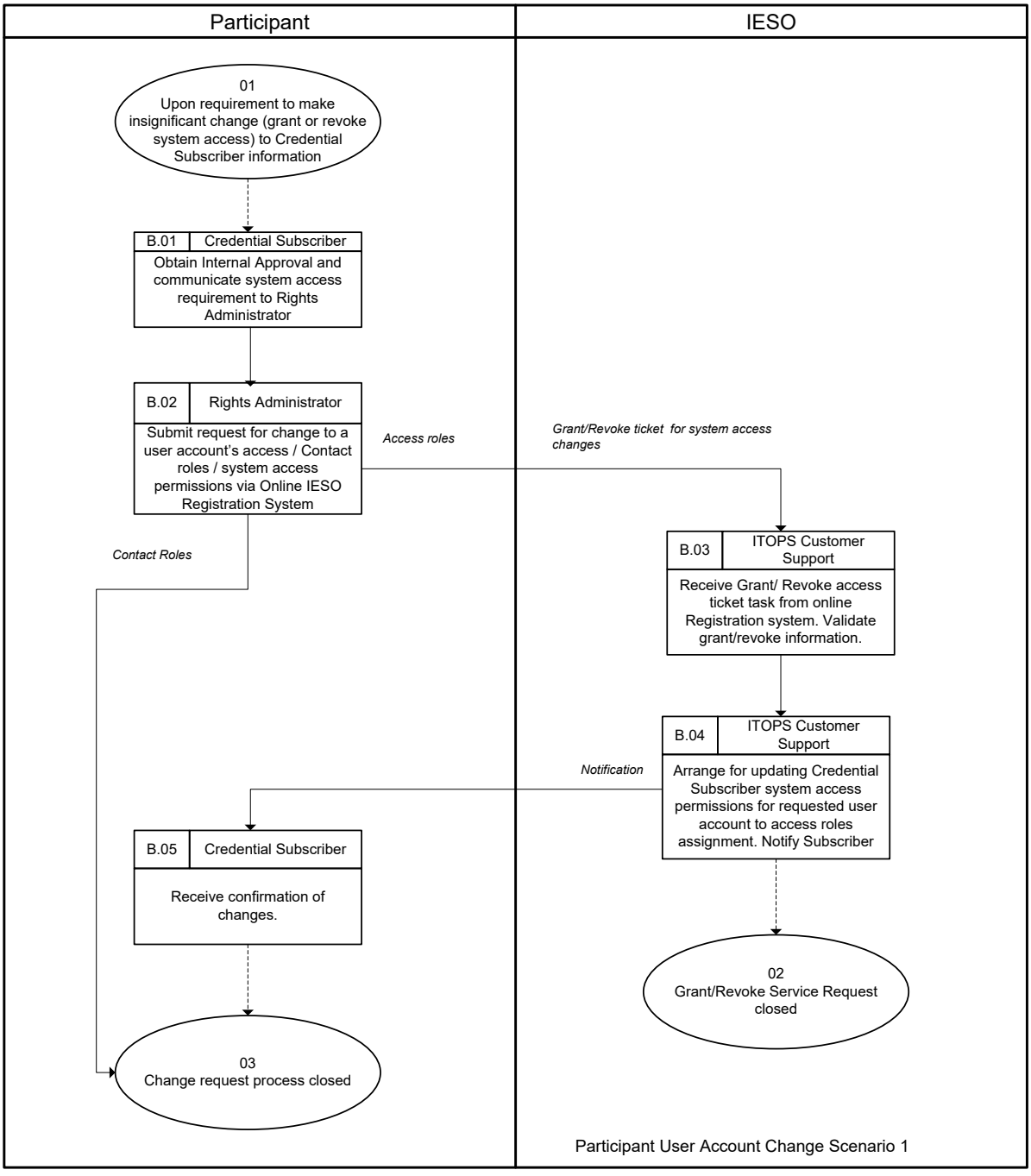


Figure 4-2: Participant User Account Change Scenario 1

4.3. Participant User Account Change Scenario 2

In this scenario, an existing Individual Subscriber or Application Subscriber submits 'person' record changes that impact the credential attributes for the person's associated personal or machine user account such as name, machine account custodian name, email address, phone number.

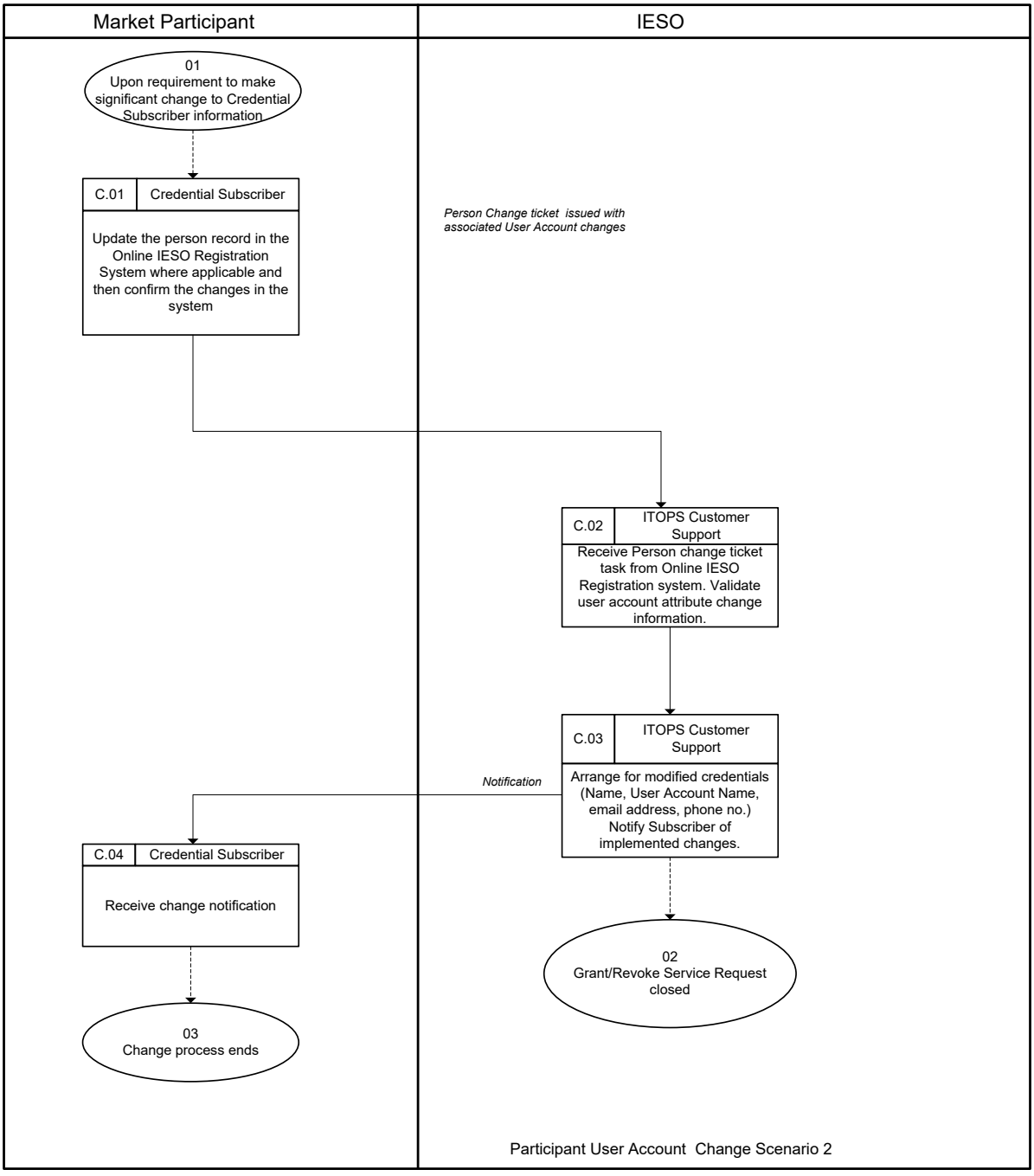


Figure 4-3: Participant User Account Change Scenario 2

4.4. Participant User Account Deactivation Scenario

In this Scenario, an existing Individual Subscriber's or Application Subscriber's account requires removal of participant contact roles and/or system access roles / permissions and deactivation as it is no longer required and a *participant* Rights Administrator submits that request.

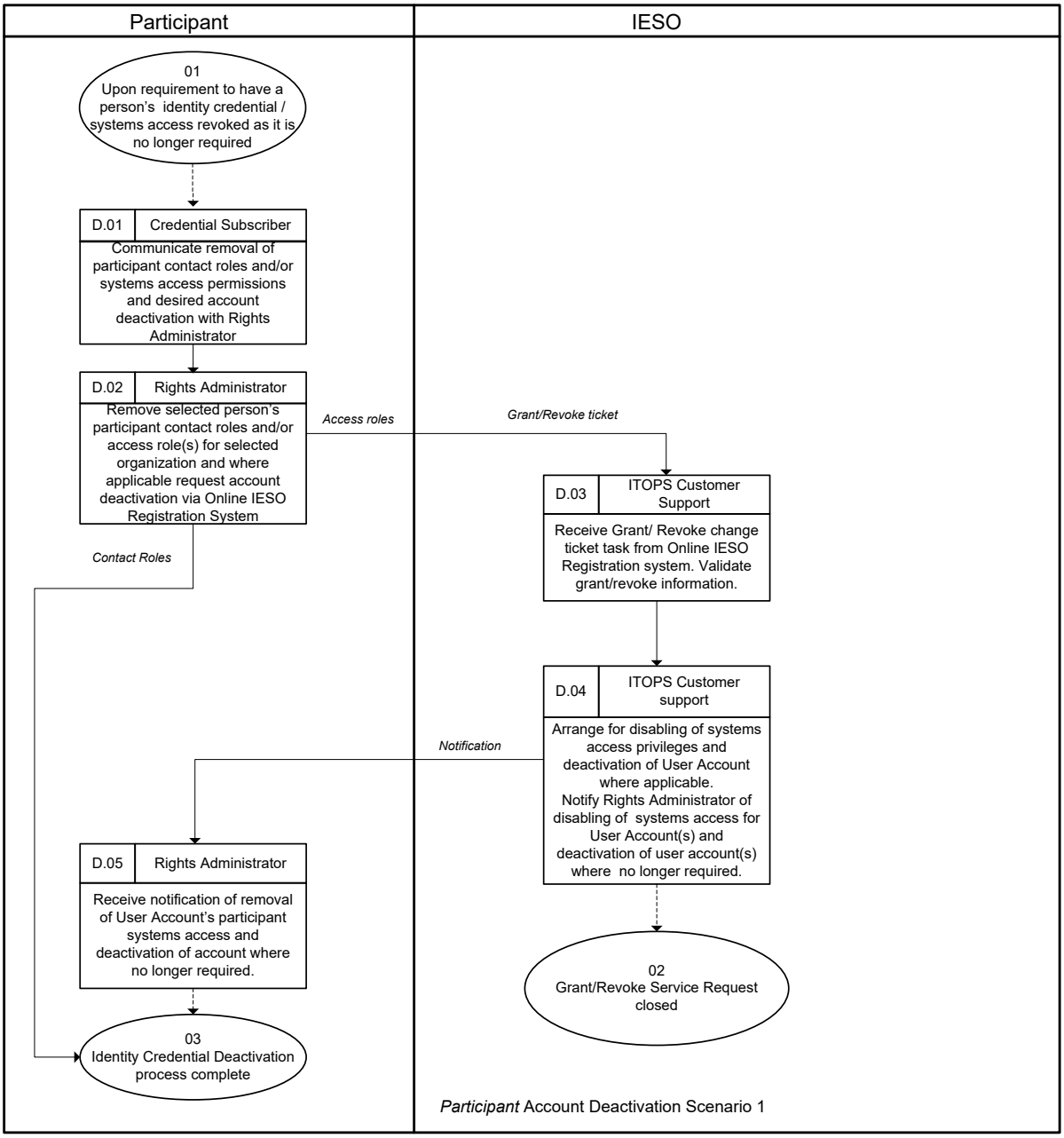


Figure 4-4: Participant User Account Deactivation Scenario

4.5. Participant User Account Recovery Scenario 1

In this scenario, an existing Individual Subscriber or Application Subscriber performs an online recovery of their identity credential or requests the recovery of their identity credential via *IESO* Customer Relations.

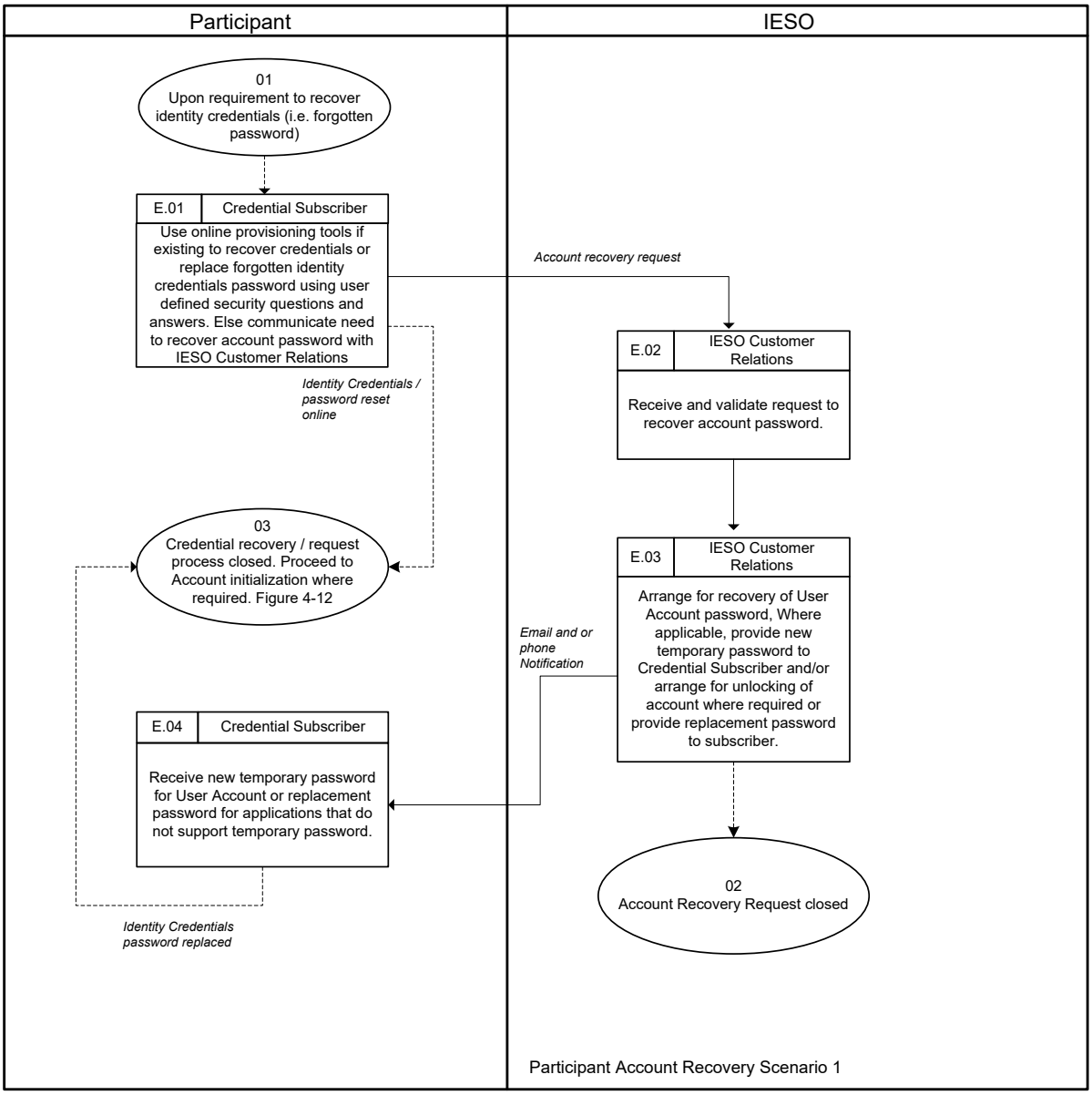


Figure 4-5: Participant User Account Recovery Scenario 1

4.6. Participant User Account Recovery Scenario 2

In this scenario, an existing Rights Administrator performs an online recovery of their identity credential or requests the recovery of their identity credential via *IESO* Customer Relations.

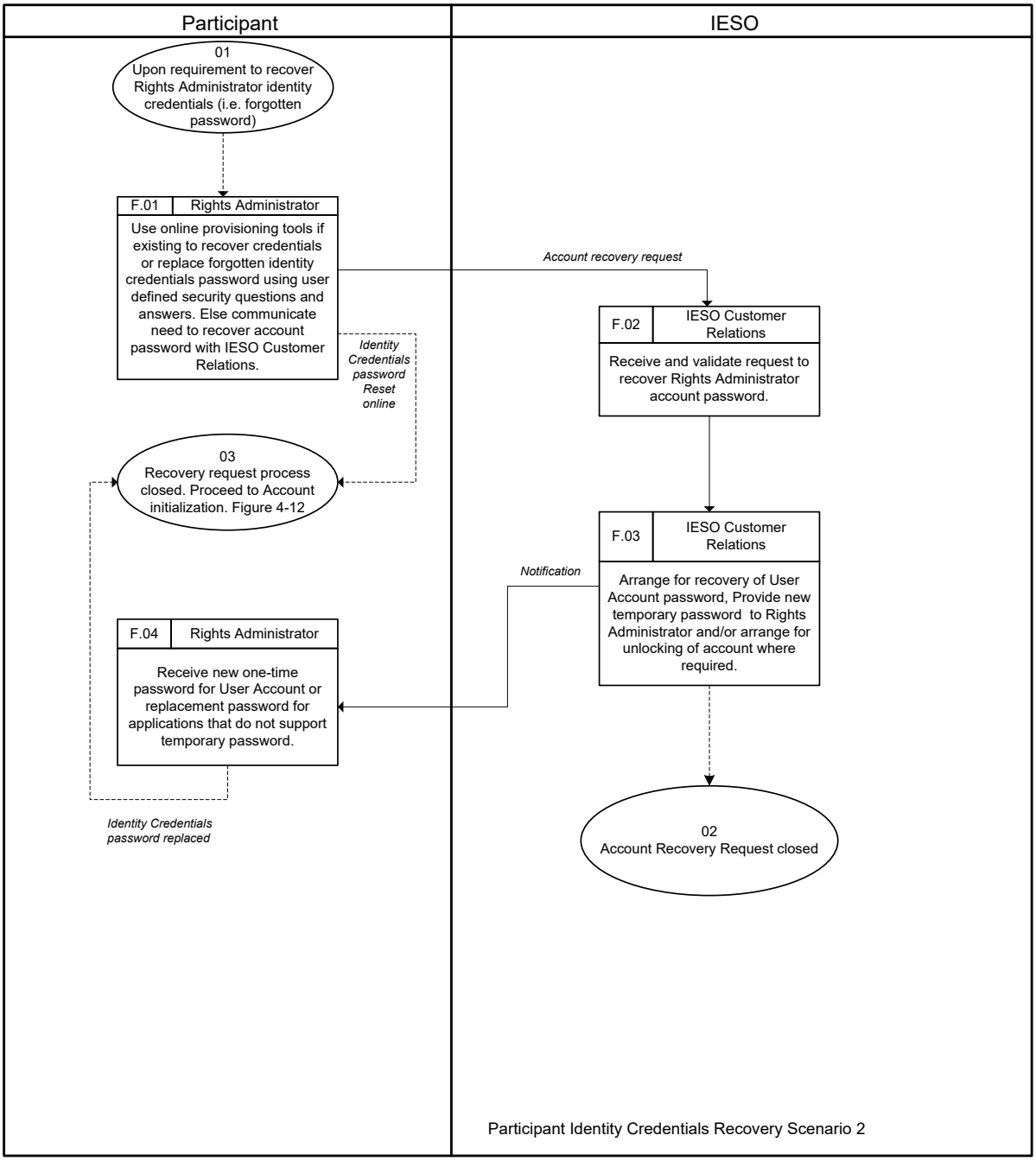


Figure 4-6: Participant User Account Recovery Scenario 2

4.7. Participant Rights Administrator Enrolment Scenario

In this scenario, a *participant* Primary Contact requests the Rights Administrator role for an employee in either Sandbox and/or Production environments.

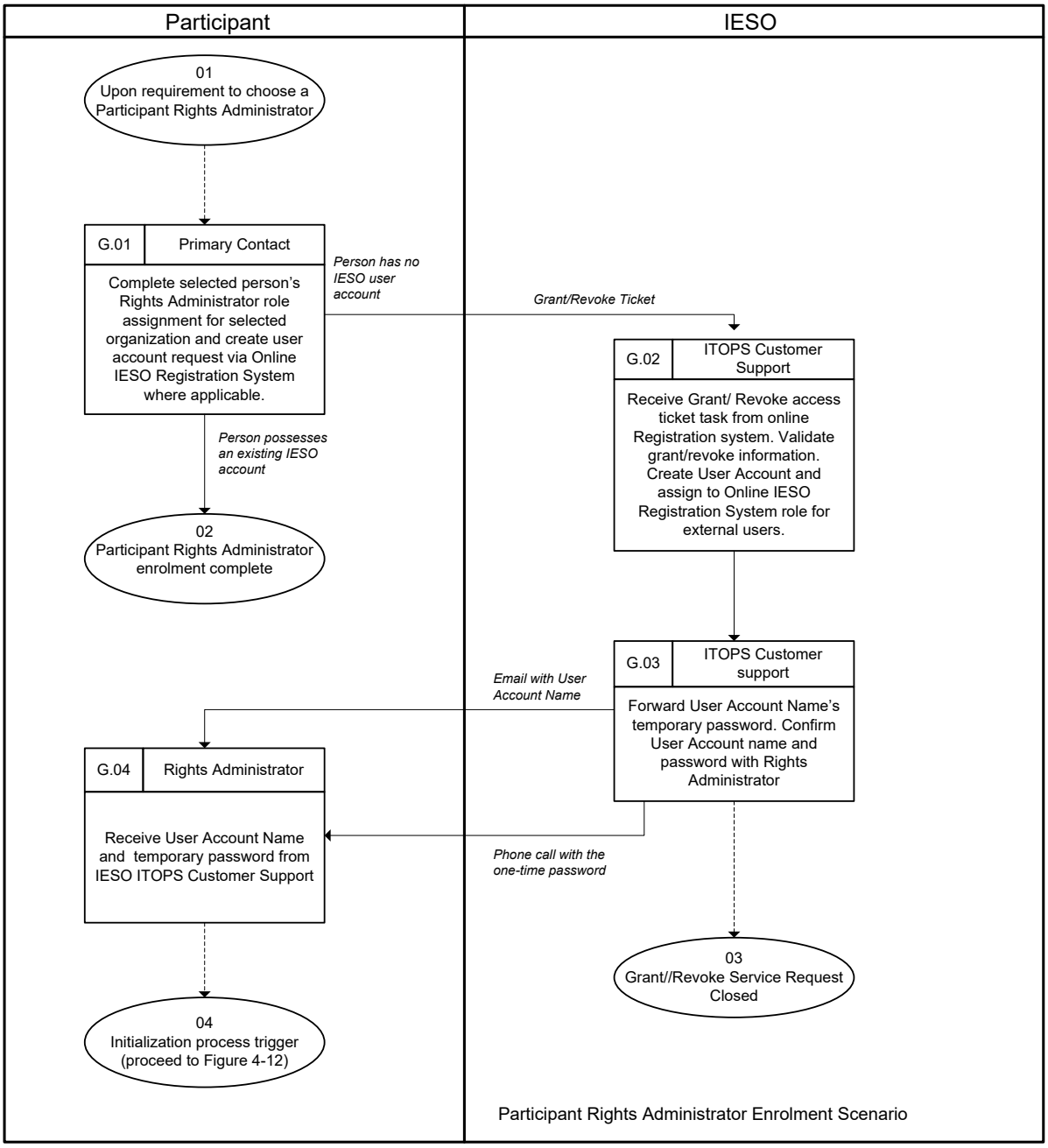


Figure 4-7: Participant Rights Administrator Enrolment Scenario

4.8. Participant Rights Administrator User Account Change Scenario 1

In this scenario, an existing Rights Administrator requests a change that impacts credential attributes for their account such as name, email address, phone number information.

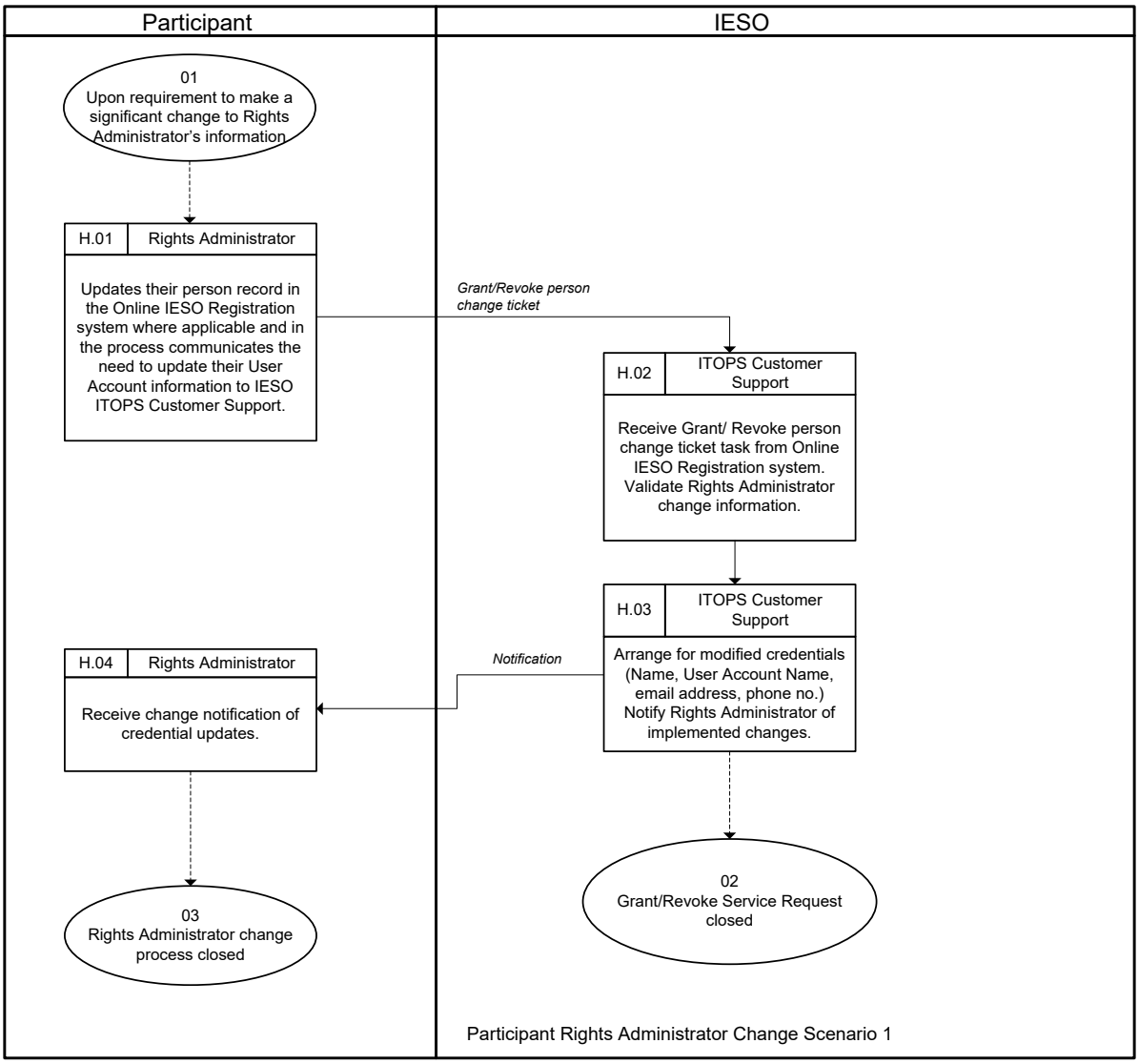


Figure 4-8: Participant Rights Administrator Account Change Scenario 1

4.9. Participant Rights Administrator User Account Change Scenario 2

In this scenario, a person in an existing Rights Administrator role requests participant contact roles and/or system access permissions changes for self or another Rights Administrator.

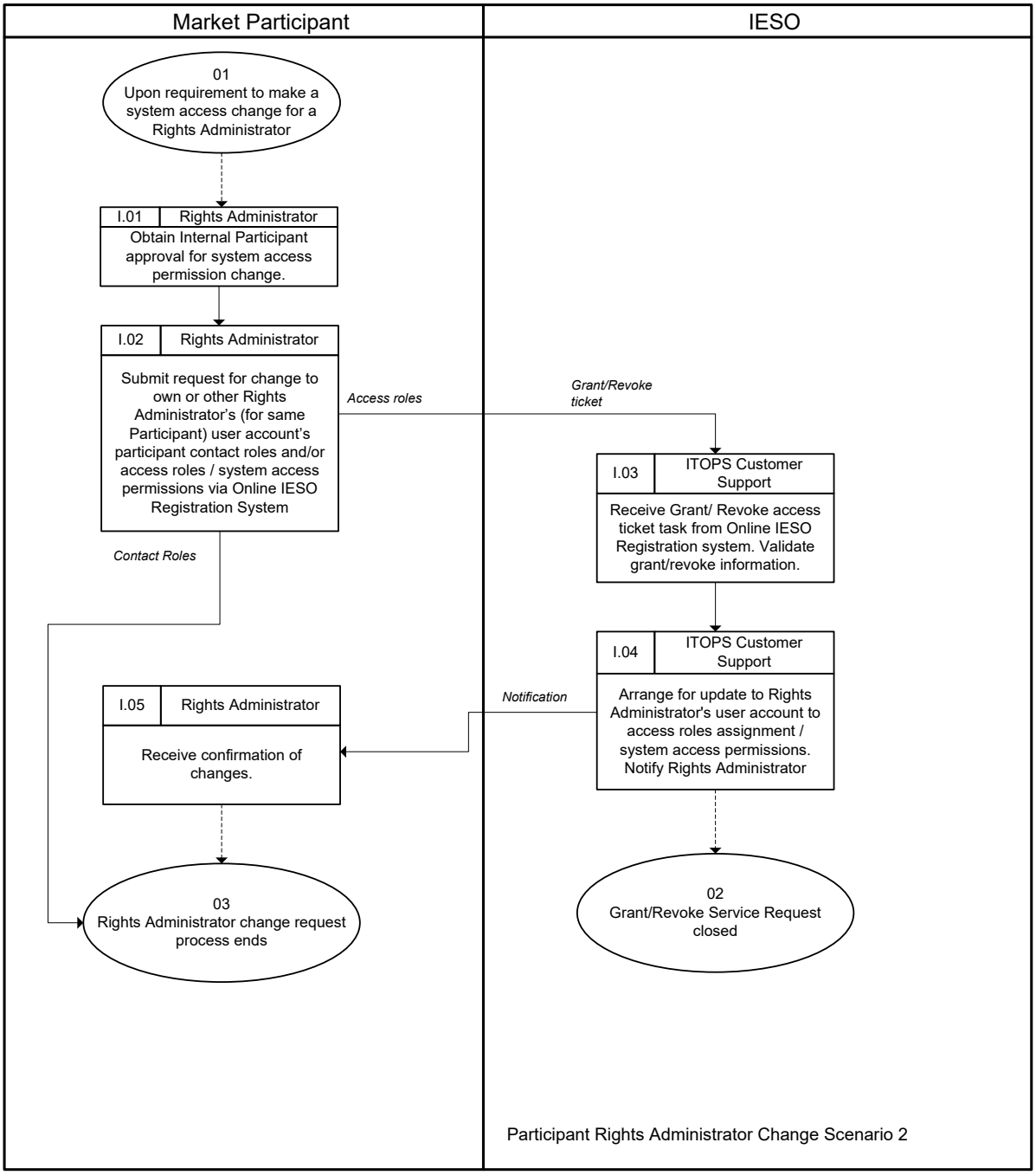


Figure 4-9: Participant Rights Administrator Account Change Scenario 2

4.10. Participant Rights Administrator Role Termination Scenario

In this scenario, the Primary Contact is requesting the termination of a person's Rights Administrator role (and specific participant contact roles / system access roles) and where applicable deactivation of the related User Account.

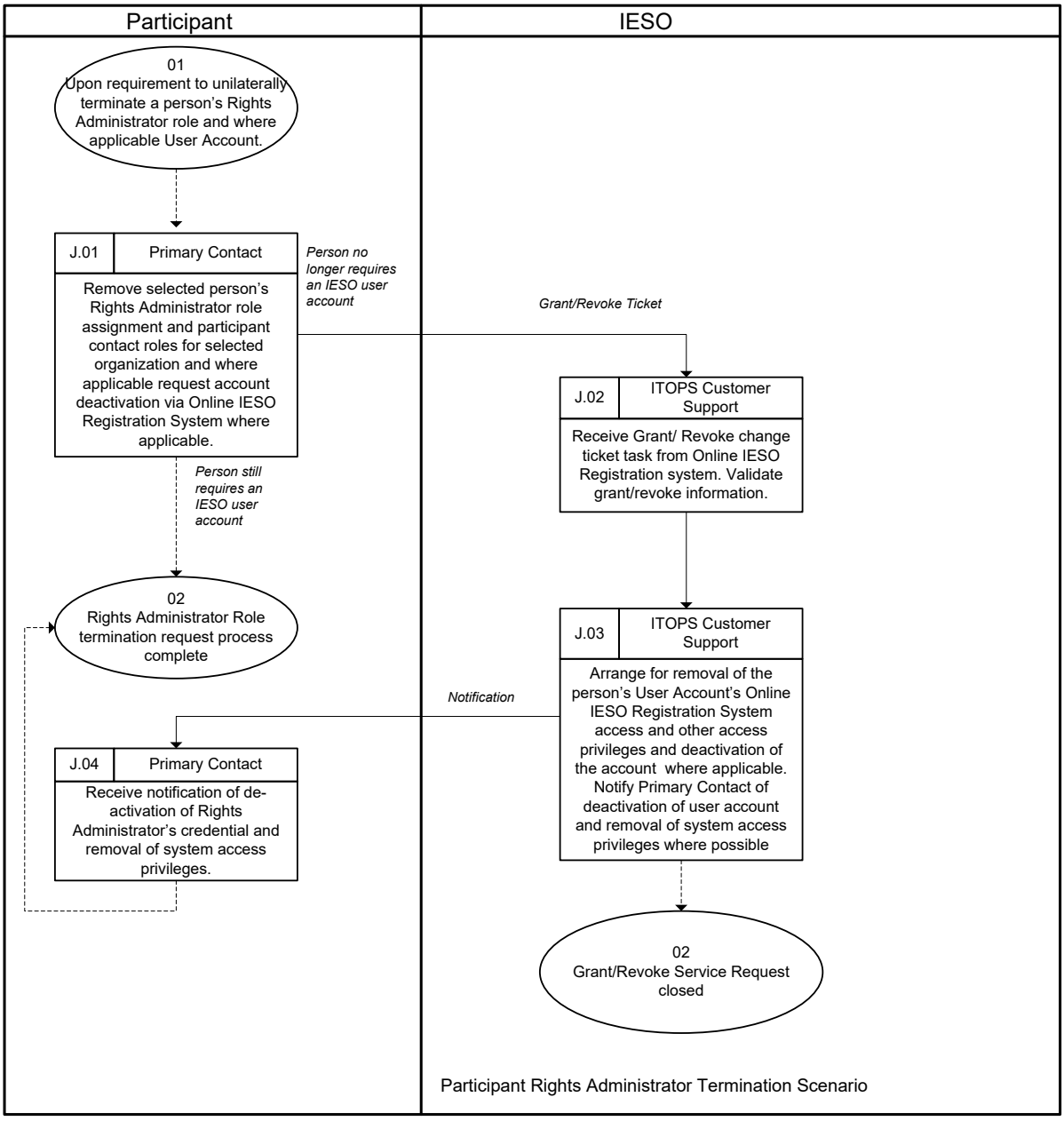


Figure 4-10: Participant Rights Administrator Role Termination Scenario

4.11. Subscriber User Account Initialization

The following diagram represents the process by which an Authorized Representative, Primary Contact, Individual Subscriber, Application Subscriber or Rights Administrator, etc. can activate their Portal, Online IESO, Report Site, Energy Market Interface, Outage Management system, User Account/Password.

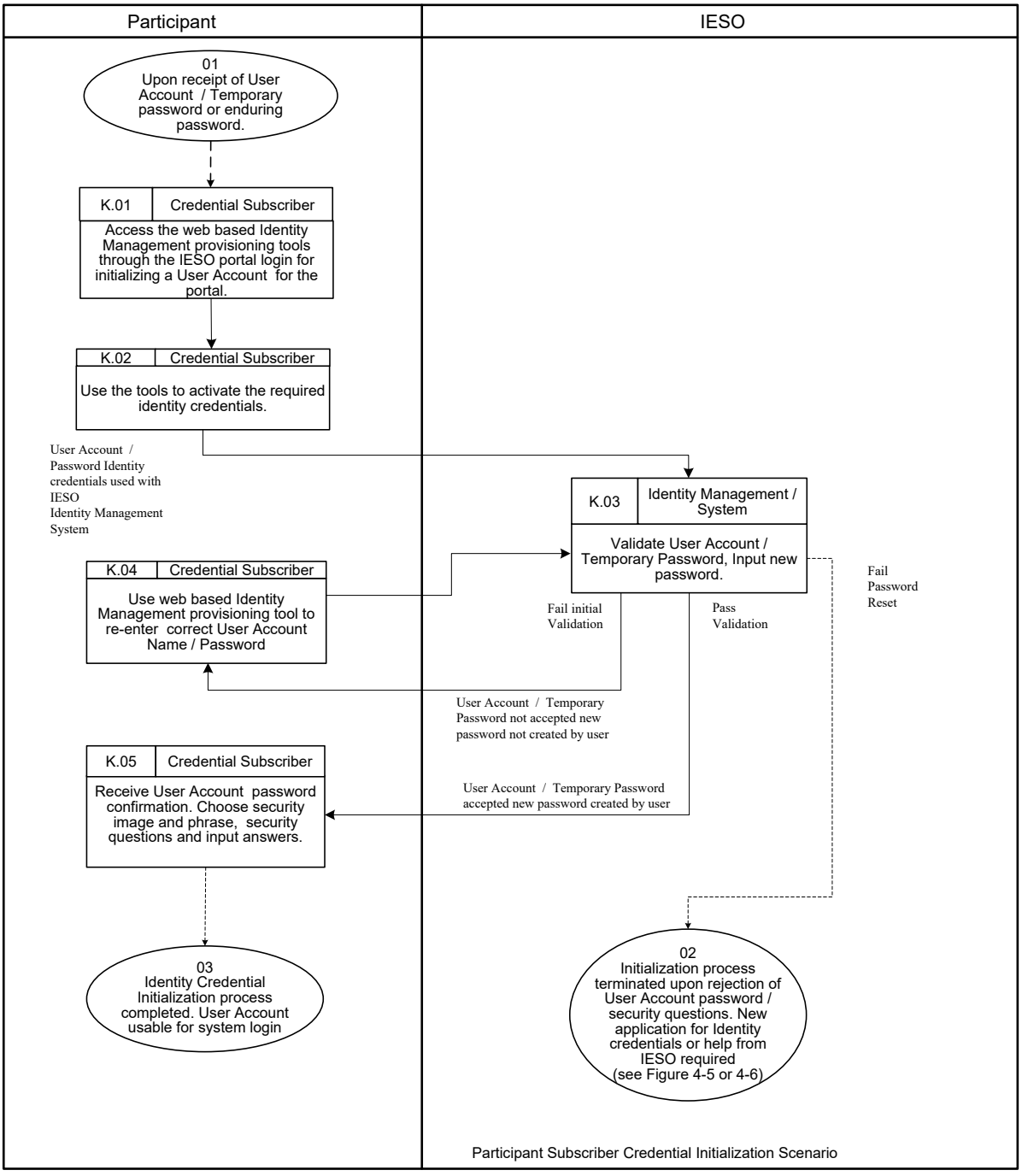


Figure 4-11: Subscriber Account Initialization

4.12. Periodic Update of Subscriber User Account Password

The following diagram represents the process by which the user account password for any Authorized Representative, Primary Contact, Individual Subscriber, Application Subscriber or Rights Administrator, etc. is updated when logging in to the IESO Portal. Password reset involves password changes to a User Account. After password reset has been completed successfully the same account may be used to login to the Portal, Report Site, Energy Market Interface site, Outage Management site, Online IESO Registration system, etc. where granted access privileges permit.

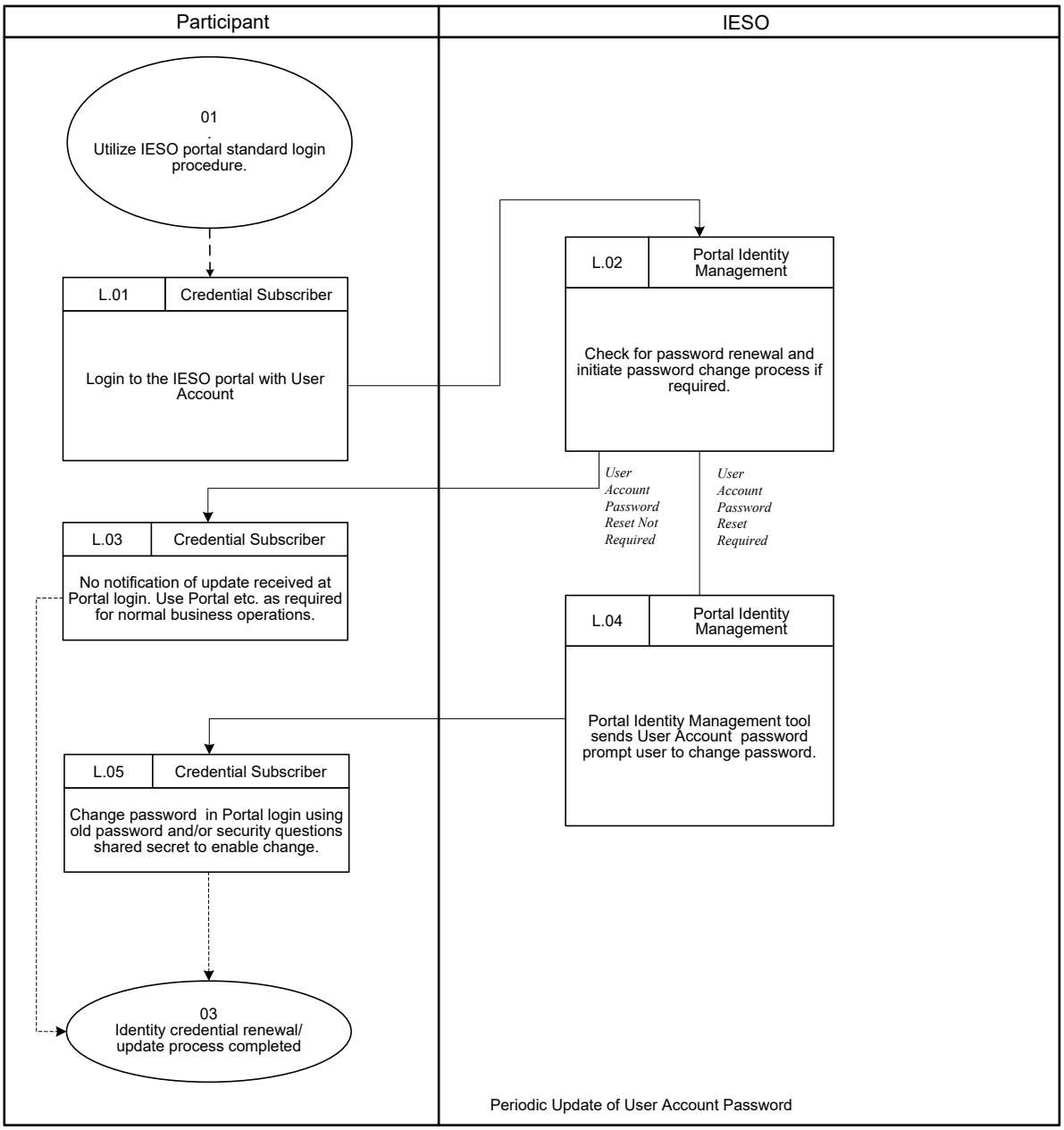


Figure 4-12: Periodic Renewal of User Account Password

- End of Section -

5. Participant Primary Contact Operational Guidelines

Section organization:

1. What is a Primary Contact?
2. IESO Trust Model and Identity Credential Proofing
3. Appointing a Rights Administrator
4. Instructions for using the IESO Registration System to Register a Rights Administrator and Request an Account and System Access
5. Requesting a Person's Rights Administrator Role Termination
6. Steps to be Taken When Registering a Rights Administrator for Registration System Access and a User Account.

5.1. Primary Contact Definition

The Primary Contact is an officer of a *participant* Organization who is authorized by the Authorized Representative (e.g. Senior Officer) to register Rights Administrators for identity credential services on behalf of the *participant* Organization. The identities of Primary Contacts are communicated to the *IESO* by the Authorized Representative via the Online IESO Registration System. Typically, this should be done at the time of initial *participant* registration but can be done any time afterwards if missed at that point and it should be done any time a change occurs with a Primary Contact.

The Primary Contact then designates and delegates the role of the Rights Administrator via the Registration system. The term Credential Subscriber generically refers to any person who possesses an IESO User account.

5.2. IESO Trust Model and Identity Credential Proofing

Participants have just one trust model provided by the *IESO.* Although not required to do so by the IESO, it is prudent for each *participant* to do their own identity proofing of Rights Administrators, Individual Subscribers and Application Subscribers. Please reference Section 3 of this Guide regarding the trust model and suggested identity proofing.

5.2.1. Participant Rights Administrator

Within the model the *participant* has an employee that will act as the Rights Administrator (See "Appointing a Rights Administrator" in the section below. Individual Subscribers and

Application Subscribers applying for a user account shall go to the Rights Administrator to be proofed and to use the Rights Administrator for all identity credential and IESO system access lifecycle management functions.

5.3. Appointing a Rights Administrator

A Rights Administrator is an employee of a *participant* Organization that is authorized to perform the face-to-face proofing of Individual Subscribers and Application Subscribers requesting market systems access and an *IESO* identity credential. As a trusted entity in the *IESO* Identity Management solution, the Rights Administrator attests to the *IESO* that to the best of their knowledge the Individual Subscriber or Application Subscriber is who they say they are.

The method used in appointing a Rights Administrator is at the sole discretion of the *participant* Organization. The *IESO* make no assertions to the individuals that should be selected. The *IESO* does, however, make the following recommendations on the traits that should be possessed by an individual selected for this Trusted Role:

- Full Time employee of the *participant* and not a Contractor working for the *participant*;
- Be in good standing with the government; and
- Be in good standing with the *participant* Organization.

5.4. Process to Register a Rights Administrator and Request an Account and System Access

See Section 8 on Registering a Rights Administrator and requesting an account and systems access.

5.5. Requesting a Person's Rights Administrator Role Termination

A Primary Contact can initiate termination of the role for any Rights Administrator entity under their span of control. To gain a better understanding of the process flow for this request, please reference the "Identity Management Procedural Work Flows" section in this Guide.

5.5.1. Circumstances for Deactivation of IESO Systems Access and User Account

Deactivation of the IESO Market system access and user account is the process of permanently ending the operational period of a User Account's system access privileges and the User Account as well where applicable from a specified time forward and not reissuing replacement identity credentials. Some of the suggested reasons for requesting user

account deactivation of any *participant* Rights Administrator entity are detailed below, but the Primary Contact may request a deactivation for any reason they deem necessary:

- Organization is in bankruptcy or liquidation
- Affiliation change
- Individual terminates job or job responsibilities no longer require *IESO* identity credentials

5.6. Steps for Registering a Rights Administrator for Registration System Access and a User Account

See section 4.7; Participant Rights Administrator Enrolment Scenario.

– End of Section –

6. Participant Rights Administrator Operational Guidelines

Section organization:

1. What is a Rights Administrator?
2. Instructions for using the IESO Registration System
3. IESO Trust Model and Guidelines for Proofing Credential Subscribers
4. Guidelines for Form Storage, Protection, and Archival
5. IESO Customer Relations Communications
6. Guidelines for Distributing and Using Identity Credential Activation Data
7. Person ID Number
8. Basic Trouble Shooting

6.1. Rights Administrator Definition

The Rights Administrator is an employee of a *participant* who is authorized submits requests for user accounts and system access via the Online IESO Registration system. Throughout this document the term Credential Subscriber refers to the Individual Subscriber and the Application Subscriber (Custodian person).

1 The Primary Contact shall request an identity credential for the Rights Administrator's use within the Registration system and shall assign the Rights Administrator role to an employee within the *participant*. The same principles and practices apply when issuing credentials to a Rights Administrator as they do when issuing identity credentials to an Individual or Application Subscriber.

6.2. Instructions for Using the IESO Registration System

See Section 8 on requesting a user account and systems access for a Credential Subscriber.

6.3. IESO Trust Model and Guidelines for Proofing Credential Subscribers

Participants have only one trust model provided by the *IESO.* Although not required to do so by the IESO, it is prudent for each *participant* to do proofing of Individual Subscribers and Application Subscribers and it is up to the *participant* to determine and employ the identity procedures that best fits within their own policies. This section of the Rights Administrator

Operational Guidelines details proofing guidelines that may be used by Rights Administrators but it is up to each *participant* to determine the procedures to be used or not.

6.3.1. When should the Identity of a Credential Subscriber Be Proofed

It is recommended that the identity of a Credential Subscriber should be proofed in the following circumstances:

- On initial identity credential issuance request,
- If a Credential Subscriber requesting an identity credential transaction has not previously authenticated his or her self to the Rights Administrator at the *participant*,
- If a Credential Subscriber incurs Significant Change, (see Appendix B for explanation), or
- When deemed necessary by the Rights Administrator.

6.3.2. Process to Validate the Identity of the Credential Subscriber

The IESO recommends that a person requesting market systems access and an identity credential transaction on behalf of a *participant* that has not previously authenticated himself to the Rights Administrator should present himself in person to the Rights Administrator along with two pieces of identification. Original or notarized copies should be provided and at least one piece of identification should be photo identification containing the requester's current name and address. Examples of appropriate identification include – Valid Passport, Birth Certificate, Valid Provincial/Territorial Driver's License, Canadian/US/Other Citizenship Certificate, or Organization Identification.

If the Credential Subscriber requesting the transaction has an existing relationship with the Rights Administrator, the Credential Subscriber should authenticate himself to the Rights Administrator by providing evidence of that relationship. Appropriate techniques can include but are not limited to:

- Confirmation of a shared secret
- Answering pre-defined questions that would be difficult for someone else to correctly answer.

The IESO recommends that the Rights Administrator should verify that the relationship is true and in good standing and that the person's original credential information is current. It is prudent that the Rights Administrator retain a record of the original proof of identity of the individual based on internal *participant* documentation practices. The Credential Subscriber should also retain a copy of this and store it in a secure location for future reference. At no time should the copy be available to any other individual except the Rights Administrator.

6.4. Guidelines for Form Storage, Protection, and Archival

Although the IESO no longer requires the *participant* to do so, internal *participant* forms or reports used in the identity management process help establish a paper/information trail. As such, it is recommended that forms be maintained with security and protection in mind. Following are recommended guidelines for storing and archiving forms in a secure and protected manner:

- Only authorized *participant* individuals should have access to the completed forms
- Any photocopied original Identity Credentials should be highly secured (The *IESO* suggests that copies of Individual Identity Credentials not be made nor retained by the *Participant*)
- The Rights Administrator should provide the Credential Subscriber a copy of the forms for their own records
- The *participant* should have an organised system for active record retrieval and archived record retrieval
- Active records should be securely locked in a drawer, filing cabinet, safe, or a similarly secured storage location
- It is suggested the *participant* archive forms for a minimum of seven (7) years in a secured and environmentally controlled off-site facility.

6.5. IESO Customer Relations Communications

In the event that the IESO Registration system is unavailable or where problems are experienced with such, please contact *IESO* Customer Relations so that they can ensure that any issue with it can be dealt with in a timely manner.

IESO Customer Relations Toll Free Phone Number:	1-888-448-7777
IESO Customer Relations Phone Number:	905-403-6900
IESO Customer Relations Fax Number:	905-403-6921
IESO Customer Relations e-mail:	customer.relations@ieso.ca

6.6. Guidelines for Distributing and Using Identity Credential Activation Data

The Credential Subscriber who applies for and receives a User Account credential must use the *IESO* supplied temporary password for initial login to the identity management system used with the Portal. The temporary password for a User Account credential must first be used to login to the Portal and changed on the initial attempted login. Using the temporary password directly against the Report site, or Online IESO system etc. will work but will cease to do so after a few weeks and then the user will need to communicate to the IESO for a password reset.

The same is essentially the same now for the Credential Subscriber (custodian) who applies for and receives a User Account credential used with the MIM Web Services (i.e. machine account). She or he will securely receive a temporary password from the IESO. The custodian will then need to login to the Portal and in the process of doing so reset the password to one of his/her own choosing and set up the associated security questions and answers. However, the machine account will have no market application access permissions in the Portal and the custodian can logout. The account can then be used with the MIM Web Services. The custodian can periodically (on a schedule of his / her own choosing), change the password and security questions and answers for the machine account by logging into the Portal and access the 'Security Profile' page in the Welcome community to do so (see procedure below).

6.6.1. IESO Personal User Account Credentials

Any User Account credential for an IESO personal user account ID shall be up to an 8-character alpha string generated by the IESO Registration system when used by the Rights Administrator under the following algorithm rules where feasible.

- Up to 8 characters' long
- Up to the first 7 characters shall represent the last name of the user. It the user's last name is greater than 7 characters, then it will be truncated at the 7th character
- The 8 character shall be the first letter of the user's first name. (i.e. Users "Jim Jones" and "Steve MacMasterly" would have user accounts "jonesj" and "macmasts" respectively)

If the user account already exists for a different person, then the up to the first 6 characters will represent the user's last name and the 7th and 8th characters will represent the initials from the user's first and second name. (I.e. Users "Jim L. Smith" and "John H. Smith" would have user accounts "smithjl" and "smithjs" respectively. If users Jim Smith" and "Jim. Smith Jr. exist, user accounts smithj" and "smitji" would be created.) The user profile information in the identity management systems would be populated to accurately reflect the differences.

Any User Account credential for an *IESO* machine/application account shall be a variable character alpha string generated automatically by the *IESO* Registration system under the following algorithm rules.

- The first 6 characters shall be APIIESO to clearly identify the account as a machine account used for IESO systems
- This shall be followed by up to 5 numeric characters. Each new API account will have the numeric component incremented so that the account ID is unique.

Existing API accounts manually generated before use of the Online IESO Registration System will remain as they are.

The *IESO* Registration system will forward a grant/revoke ticket to those responsible in IESO IT Operations for creating the account or granting system access privileges. IT Operations will create the User Account and the Registration system will email the account User Name information directly to the Credential Subscriber based on the email address provided by the Rights Administrator in the Registration system. It is critical to the trust model employed within the *IESO* Registration system and identity management solutions that the email address for the Individual or Application Subscriber (custodian) be current and accurate.

However, in the event that the email address is, incorrectly defined by the Rights Administrator within the Online IESO Registration system IESO IT Operations may contact the Rights Administrator or Credential Subscriber directly, to aid in the delivery of the User Account to the Credential Subscriber by obtaining the correct email.

6.6.2. User Account Activation - Temporary Password

Any User Account credential for an *IESO* user or machine account used with the Portal, Report Site, Energy Market Interface, Outage Management system, Online IESO Registration system, or any Web Service where applicable shall have a temporary password (or one that is reset at the valid request of a user) generated by *IESO* IT Operations under the following rules.

- At least 8 characters' long
- Case sensitive
- Require a mix of both upper and lower case alpha and numeric characters
- Allow special characters (various forms of punctuation and other symbols)

Other rules for User Account passwords include the following:

- Passwords shall not be stored in clear text
- Password histories shall be maintained for each user or machine account. The user should not be allowed to reuse any of the last five passwords.

2 Only one method will be used for the delivery of the temporary /reset password to the Credential Subscriber as defined below. Throughout the entire process, knowledge of the password must be kept solely between an *IESO* IT Operations administrator and the Credential Subscriber. Once the User Account ID and temporary password have both been received by the Credential Subscriber, he/she can login to the Portal / Identity Management system with that User Account and one-time password and reset the password as required. The Credential Subscriber should also choose a security image and phrase and five security questions and input appropriate answers for password self-recovery and extra authentication purposes as well.

6.6.3. Direct Delivery of Temporary password from an IT Operations Administrator

Direct delivery involves delivering the password directly from an IT Operations Administrator to the Credential Subscriber as follows:

- By Phone

  The IT Operations Administrator will phone the Credential Subscriber to deliver the temporary / reset password to the Credential Subscriber validating that they are talking with the correct individual at the time. The phone number will be captured during person registration in the Online IESO system.

  It shall be the responsibility of each person to maintain correct phone and email information in their person record. The Registration system will permit each person to login with their user account (once it is created) and perform updates to this information. The system will maintain a historical record of all changes.

6.7. Person ID Number

Online IESO Registration of people for a *participant* will automatically assign a unique person ID number to each person when that person record is first created. This will enable distinguishing one person with the name of John Smith from another person with the same name for example. Each person will be able to see their own Person ID number in the Registration system within their person record but they will not be able to alter it.

During the Initial Issuance process for identity credentials, the Rights Administrator, for each Credential Subscriber, will ensure via this Person ID number that they are requesting a User Account for the intended person. The User Account record stored on the system will be linked to the intended person record to ensure future transactions for user system access are correctly processed.

6.8. Basic Trouble Shooting

For situations that require trouble shooting, please contact *IESO* Customer Relations.

– End of Section –

7. Credential Subscriber Operational Guidelines

Section organization:

1. Introduction
2. IESO Trust Model and Identity Credential Proofing
3. Protection of Identity Credential Activation Data
4. Person ID Number
5. Password Creation Guidelines
6. Applying for an IESO Account
7. IESO Systems Access Requests
8. IESO Account Deactivation
9. IESO Account Change
10. IESO Account Recovery

7.1. Introduction

These guidelines are meant to supplement Sections 8 and 9 of this Guide to help the Individual Subscriber and the Application Subscribers through the identity credential lifecycle process. Throughout this document the term Credential Subscriber refers to the Individual Subscriber or the Application Subscriber (Custodian person).

To interact with *IESO* Portal, Online IESO, Energy Market Interface, Outage Management system, IESO Reports Site or other Web servers, individuals require an *IESO* identity credential (i.e. a User Account / Password). Please reference section 1.4.2 User Account Identity Credentials of this Guide for more information on identity credentials.

Before receiving an *IESO* identity credential, it is recommended *participant* individuals be positively identified through a secure method of authentication by the *participant* Rights Administrator, as the individual or application account is bound to the appropriate identity credential issued to them. Each identity credential will be registered to an individual person (Individual Subscriber or Application Subscriber).

A User Account is assigned to an individual (person) or application (custodian). Where it is assigned to an application, the Application Subscriber (a.k.a. Application Custodian) is the point of contact even though it may be used by others within the context of machine to machine communications.

7.2. IESO Trust Model and Identity Credential Proofing

Participants have just one trust model provided by the *IESO.* Although not required to do so by the IESO, it is prudent for each *participant* to do identity proofing of Credential Subscribers. Please reference Section 3 of this guide regarding the trust model and suggested identity proofing. Within this trust model the Credential Subscriber shall communicate with the Rights Administrator to obtain a User Account and request system access privileges.

7.2.1. Participant Rights Administrator

In the trust model, the *participant* has an employee that will act as the Rights Administrator. Individual Subscribers and Application Subscribers applying for an identity credential shall go to the Rights Administrator to be proofed and to use the Rights Administrator as the liaison between the *IESO* and the individual for identity credential lifecycle management functions.

7.3. Protection of Identity Credential Activation Data

Activation Data is the data required for accessing the User Account or other *confidential* data; examples of Activation Data include passwords, access codes, biometric authentifiers, and the authorization code. In the *IESO* implementation Activation Data is required to use a User Account.

The Activation Data required to activate the User Account is a password. The password must be input any time that the identity credential needs to be used.

All Activation Data shall be unique and unpredictable, and of strength appropriate for the information it is protecting. All Activation Data should be generated and installed by the Credential Subscriber in their exclusive custody.

7.4. Person ID Number

Online IESO Registration of people for *participants* will automatically assign a unique person ID number to each person. This will enable distinguishing one person with the name of John Smith from another person with the same name etc. Each person will be able to see their own Person ID number in the Registration system within their person record but they will not be able to alter it.

During the Initial Issuance process for identity credentials, the Rights Administrator, for each Credential Subscriber, will ensure via this Person ID number that they are requesting a User Account for the intended person. The User Account record stored on the system will be linked to the intended person record to ensure future transactions for user system access are correctly processed.

7.5. Password Creation Guidelines

Passwords for all identity credentials are case sensitive (The "Caps Lock" key should be off) and must meet the following rules:

- Eight characters or longer, (longer is preferable)
- Contains the following three distinguishing features:
  - Upper-case
  - Lower-case
  - Special character (punctuation and other symbols). Do not use ampersand &, backslash \, less than symbol <, greater than symbol >, single quote ‘, double quote “
- Recommended to use numbers as well
- Includes no spaces

Passwords should not be made up of words that appear in any dictionary or contain the user’s name or User Account.

Passwords should not be easy-to-guess as an easy-to-guess password increases the chances that an attacker can gain access to the private key protected by that password and represent him as a valid user.

7.6. Applying for an IESO Account

In order to apply for Market Systems access and an account the Credential Subscriber should obtain the proper internal approvals and communicate their requirement to the *participant* Rights Administrator within their Organization. Once the Initial Issuance process has been competed the Credential Subscriber will receive an email of the User Account name (i.e. UserID) created and a User Account temporary password directly from the IESO IT Operations administrator by phone. It shall be the responsibility of each person to maintain correct phone and email information in their person record in the Registration system going forward. The Registration system will permit each person to login with their user account (once it is created) and perform updates to this information. The system will maintain a historical record of all changes.

Please refer to Section 9 of this Guide for instructions on how to use a User Account’s temporary password.

7.7. IESO Systems Access Requests

All grant or revoke requests regarding *IESO* systems access privileges shall be communicated to an authorized *participant* Rights Administrator along with the appropriate internal *participant* approval for such. The Rights Administrator will use the Online IESO Registration System to request the user’s account be granted or revoked membership in the

appropriate participant contact roles or access role groups regarding the targeted systems access. Contact roles' access rights typically are enabled immediately within the Online IESO Registration system. The Registration system will record the user's systems access privileges changes in the IESO master database and a workflow ticket will be created where required by the Registration system to the IESO IT Operations Administrator to add or remove the user's account in the appropriate system access role groups and notification of the enrolment change will be sent back to the Rights Administrator via email.

7.8. IESO Account Deactivation

All requests for *IESO* account deactivation should be communicated to the *participant* Rights Administrator.

7.8.1. Account Deactivation

Account deactivation is the process of permanently ending the operational period of an account from a specified time forward and leaving the User Account in a deactivated state. Some of the suggested reasons for requesting a deactivation of any *participant* entity are detailed below.

- Organization is in bankruptcy or liquidation
- Compromise or suspected compromise of a User Account
- Affiliation change of the entity
- Account is superseded
- Individual terminates job or job responsibilities no longer require an *IESO* account
- Whenever any other circumstances or reasonable care would require that an account be deactivated / revoked.

7.9. IESO Account Change

All requests for an identity credential change should be communicated to the *participant* Rights Administrator.

An identity credential Change request is required if the Subscriber currently has a User Account for use within the *IESO* Portal, Reports site, Online IESO Registration system, Prudential system, Energy Market Interface, Outage Management System or MIM API service and the user account attributes have become inaccurate (e.g. name change, email address change, phone number change or system access requirements)

7.10. Account Recovery

All requests for User Account 'forgotten password' reset that the users (or custodian for machine accounts) cannot reset themselves with their self-chosen security questions and

answers) should first be communicated to the *participant* Rights Administrator. However, forgotten User Account password reset requests may be communicated verbally or via email to the *IESO* Customer Relations contact. Sufficient user verifying information (i.e. account information, Person ID number etc.) must be provided by the user to sufficiently identify the request as genuine and enable password reset, otherwise the request will be denied.

Once the User Account and password is communicated to the Credential Subscriber, the user can log on to the appropriate system and change their password if and where applicable.

– End of Section –

8. Use of the Online IESO Registration System

8.1. Introduction

Participants shall be able use the web based Online IESO Registration System to establish the identity of Authorized Representatives, Primary Contacts, Rights Administrators, Individual Subscribers and Application Subscribers, assign them to specific Contact roles and request User Accounts for all. *Participants* maintain the trust model described in section 3 via the use of the Registration System. This must be done independently in both Sandbox and Production Registration systems as required by *Participants*. The choice of who to register in the Sandbox and Production Registration systems is up to each *Participant*.

Once one or more Authorized Representatives for a *participant* have been established any one of them can login to the Registration System to define and designate persons in the role of Primary Contact who in turn can define and assign persons in the role of Rights Administrator. The steps shown below apply to the Rights Administrator role for requesting user accounts and systems access for other users.

The IESO makes a distinction between 'Person' and 'User Account' in its systems. Within the Registration System a person record represents an individual person and the data within the records for that person define who they are. A person's data such as name, email address, phone number etc., may change over time and this can be updated in the Registration system. A person's relationship with one or more organizations in various *participant* contact roles may exist over time as well. A User Account record however defines the electronic identity credentials that a person may be associated with and a user account is categorized as either a Personal account or a Machine account as define in Section 7.1. A person's record may be associated to one or more personal or machine accounts in the Registration system and in addition a person's personal or machine user account(s) may be associated to one or more *participant* contact roles or system access roles for various *participants* over time as required. Rights Administrators will use the Registration system to define unique Person records and request user accounts for each person.

8.1.1. Login to the Online IESO Registration System

All *participant* Organization Applicant Representatives, Contacts and Rights Administrators can access the Online IESO Registration system by Accessing the IESO Portal (either Sandbox or Production) and click on the IESO Registration link in the Portal "IESO Related Links" as shown in Figure 8-1

Note that this section shall not deal with other market application functionality now available in Online IESO other than for registration identity and access permission processes.

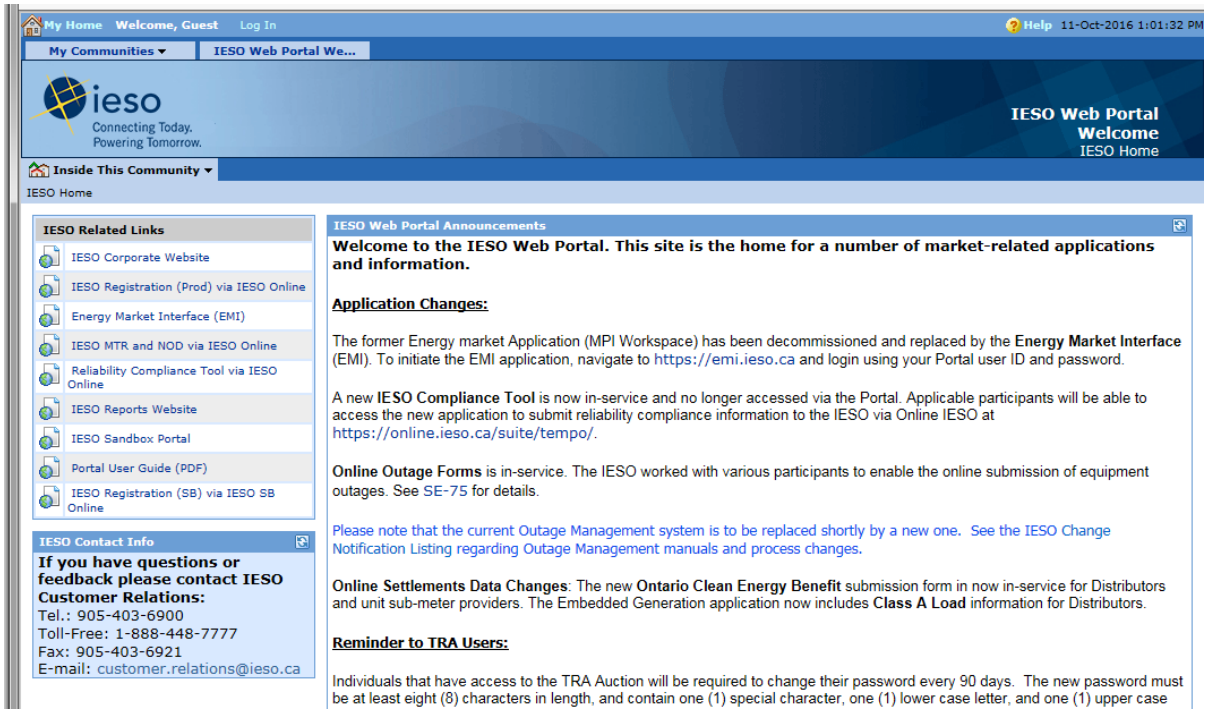


Figure 8-1: Registration System Link in IESO Portal

The link in each Portal will navigate the *participant* user to the associated Sandbox or Production Online IESO Registration system login screen in a new browser tab as shown in the example in Figure 8-2

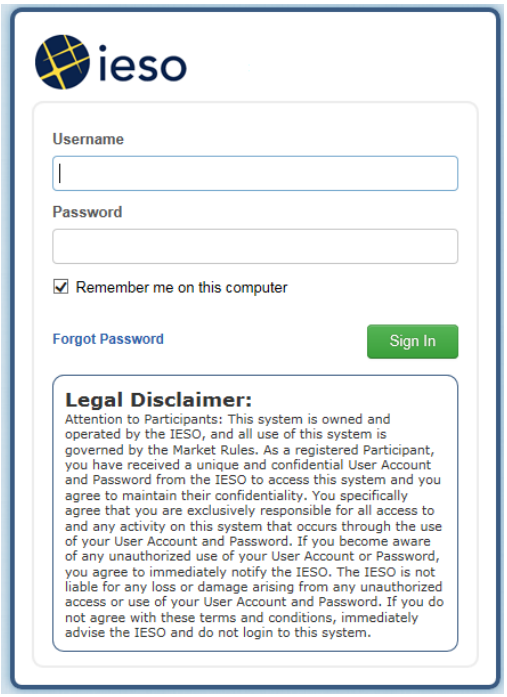


Figure 8-2: Registration System Login Screen Example

The "Forgot password link will navigate the user to the corresponding Portal login page (Sandbox or Production) where she or he can attempt to recover the password. See Section 9.1.2. The person's Sandbox and/or Production user account is common for matching Portal and Online IESO Registration systems in each environment but the same account/password is not used between Production and Sandbox.

8.1.2. Online IESO Registration System Actions

8.1.2.1 Applicant Representative

Successful login to the Online IESO Registration system by an Applicant Representative will take them to an 'Actions' page as shown in Figure 8-3.

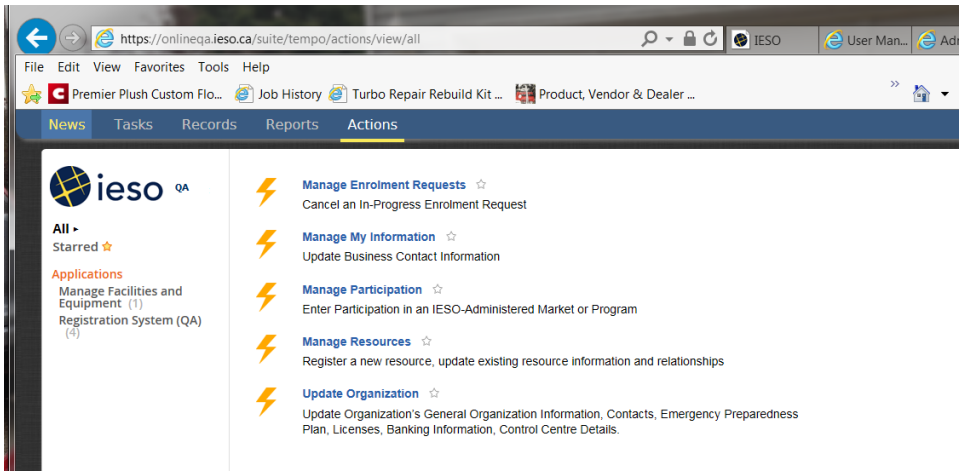


Figure 8-3: Online IESO Applicant Representative - Actions Page

He or she can choose to update their own personal contact information, Manage Enrolment requests, Manage Participations, Manage Resources (i.e. user- resource relationships) or Update Organization (i.e. contacts etc.).

Participations

The Applicant Representative can choose "Manage Participation" to begin a process instance for requesting participation for their organization from one of those listed in Appendix C. This will impact what contact roles can be requested for various individuals at the participant. Once 'Manage Participation' has been chosen the Applicant Representative will be presented with the page to choose the type of Participation as shown in Figure 8-4.

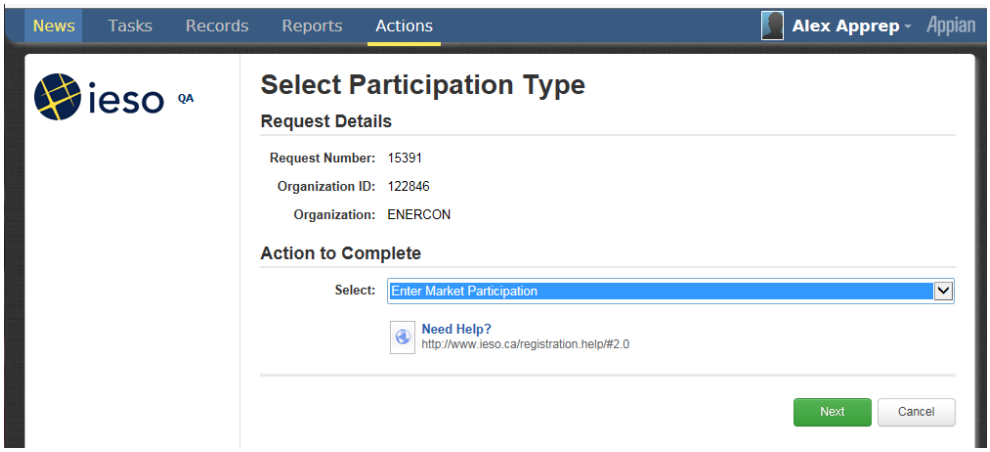


Figure 8-4: Online IESO Applicant Representative – Select Participation Type Page

The Applicant Representative can choose one of 3 options from the drop down and click on the 'Next' button. This will limit choosing the actual type of participation.

Figure 8-5: Online IESO Applicant Representative – Select Participation Type Option

For example, if Market Participation is chosen then the Applicant Representative will be present with the page shown in figure 8-6.

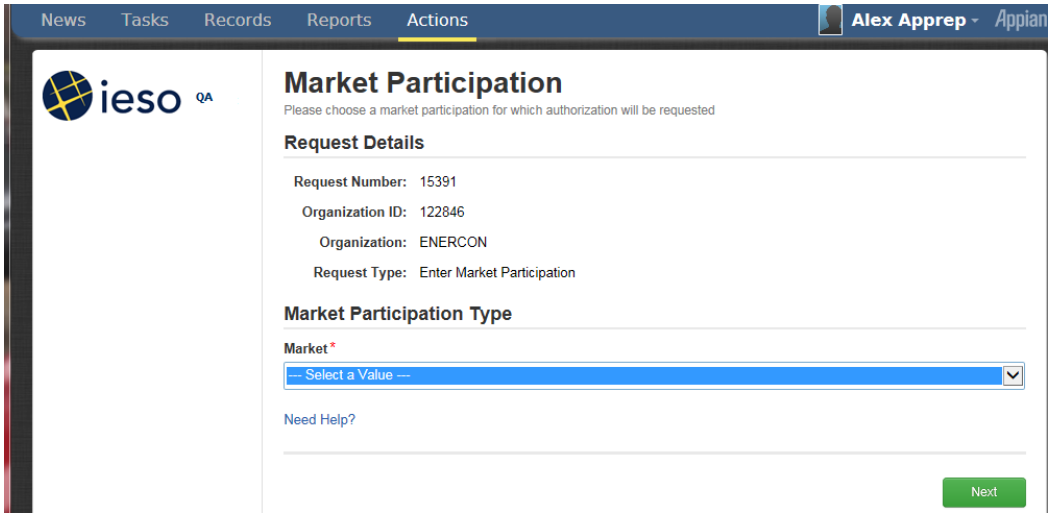


Figure 8-6: Online IESO Applicant Representative – Market Participation Type

The Applicant Representative can then choose the desired participation for the Market category from the dropdown list as shown below

Figure 8-7: Online IESO Applicant Representative – Market Participation Choices

The Applicant Representative could choose for example to enable her/his organization in the Capacity Auction market as shown in Figure 8-8 and then click on the 'Next' button.

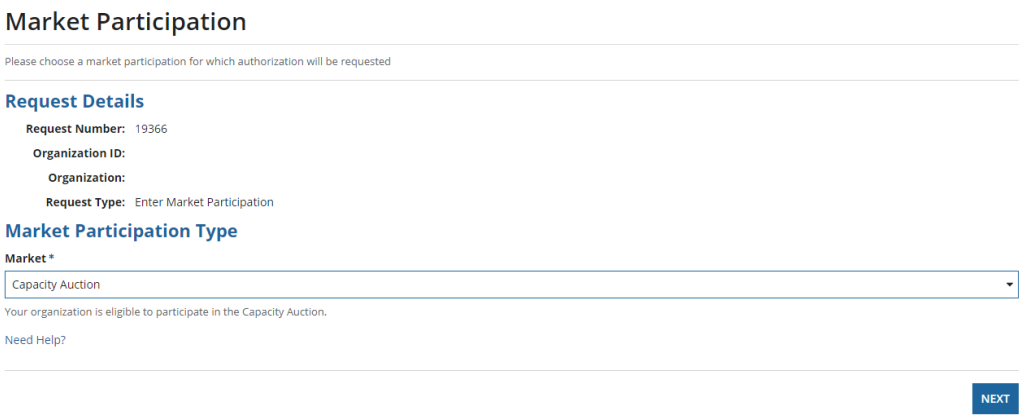


Figure 8-8: Online IESO Applicant Representative – Choosing Capacity Auction Market Participation

The page would then update to show the Applicant Representative what tasks are next needed to be done as shown in Figure 8-9

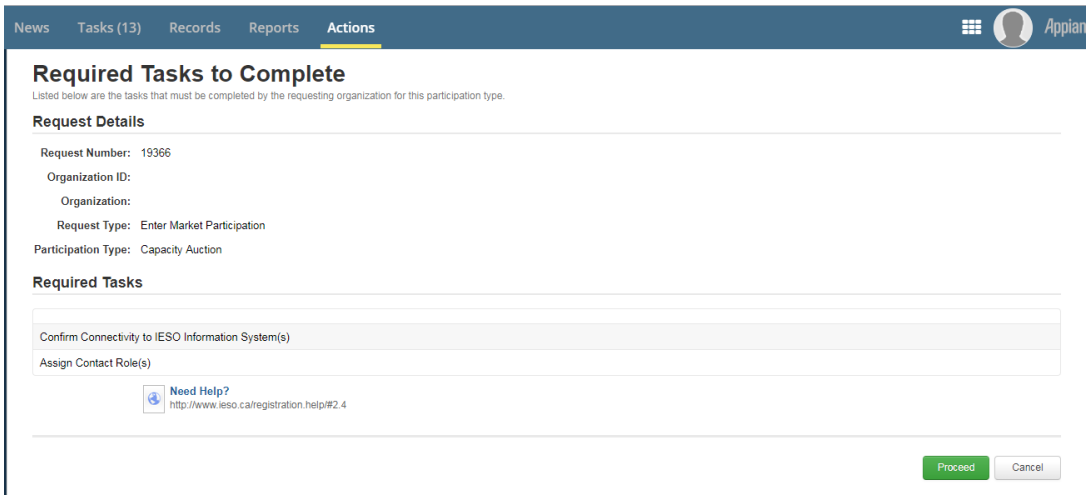


Figure 8-9: Online IESO Applicant Representative – Participation Required Tasks

The Applicant Representative would just need to click on the 'Proceed' button to complete the Participation registration and continue back to the Actions main page and then assign contacts and verify connectivity for the contacts to the required IESO IT system that the participation is permitting.

Update Organization and Contacts

The Applicant Representative can choose 'Update Organization' to update Contact Roles to add one or more people to a desired contact role once the required participations applied for have been granted and approved by the IESO. The list of contact roles available (dependent on the registered participations) is shown in Appendix B.

Once a required participation for an organization is active the Applicant Representative can choose Update Organization and then choose to Update Contact Role(s) from the dropdown list as shown in Figure 8-10 and then click on the Next button to proceed.

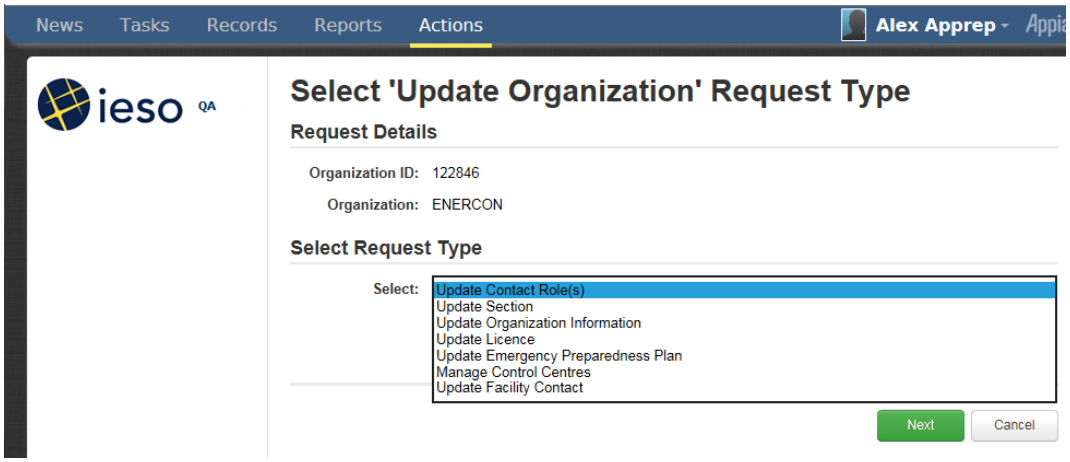


Figure 8-10: Online IESO Applicant Representative Update Organization Request Type

They can then choose to do so: "By Person", "By Role" or "By Section" buttons

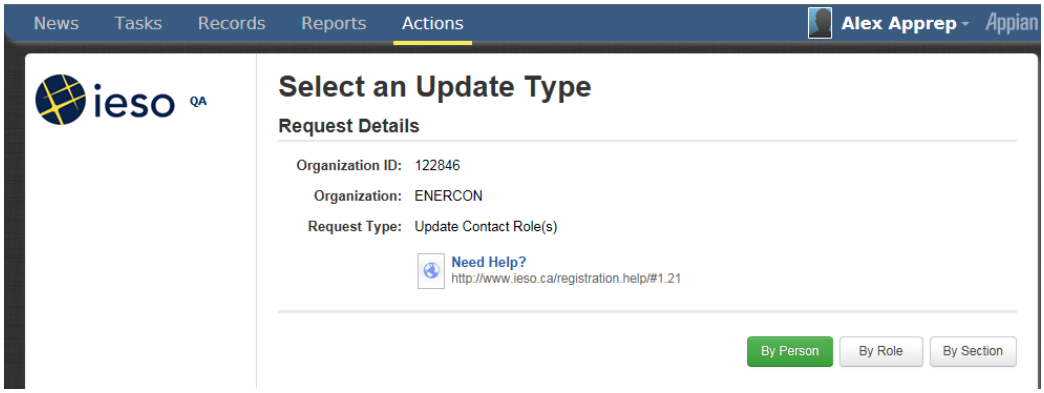


Figure 8-11: Online IESO Applicant Representative Update Contact Role(s) Update Type

If choosing 'By Person' the Applicant Representative will need to know some information about the person, they want to register a contact role for so they can search for and choose that person.

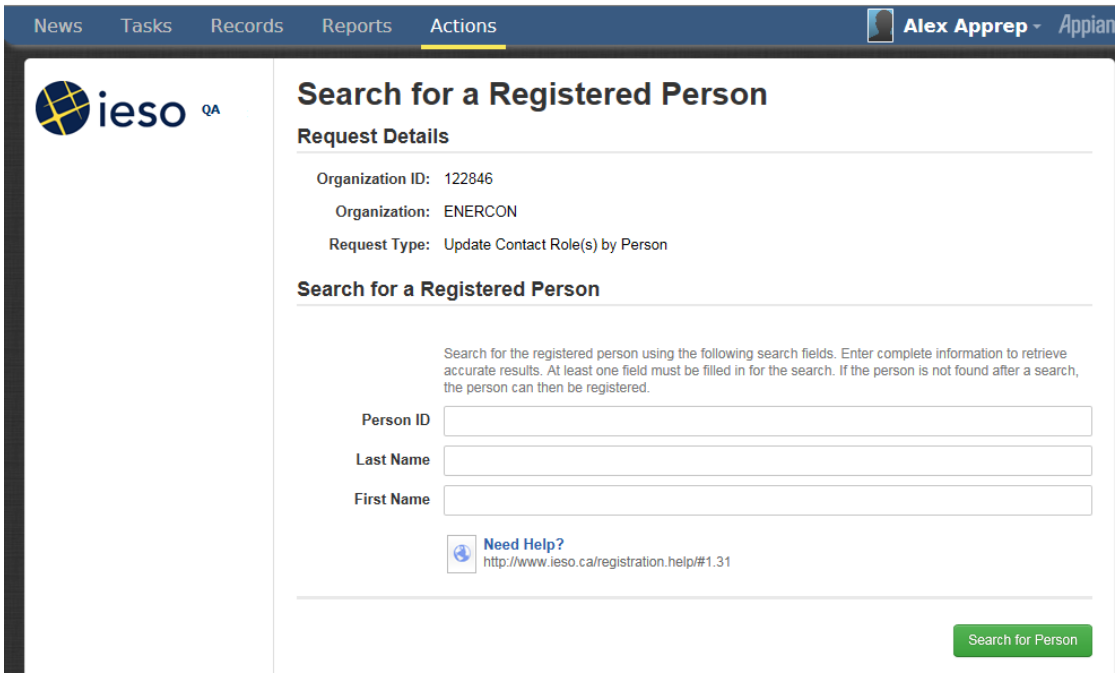


Figure 8-12: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search

For example, if the Applicant Representative knows the person's last name is Smith he/she can type Smith (or any part of the last name) in and click on 'Search for Person'. The results would show all people with Smith (or all those with last names matching the pattern input) as a last name and the Applicant Representative can sift through the list until they find the right person. The list is not necessarily sorted alphabetically so multiple pages may have to be looked at.

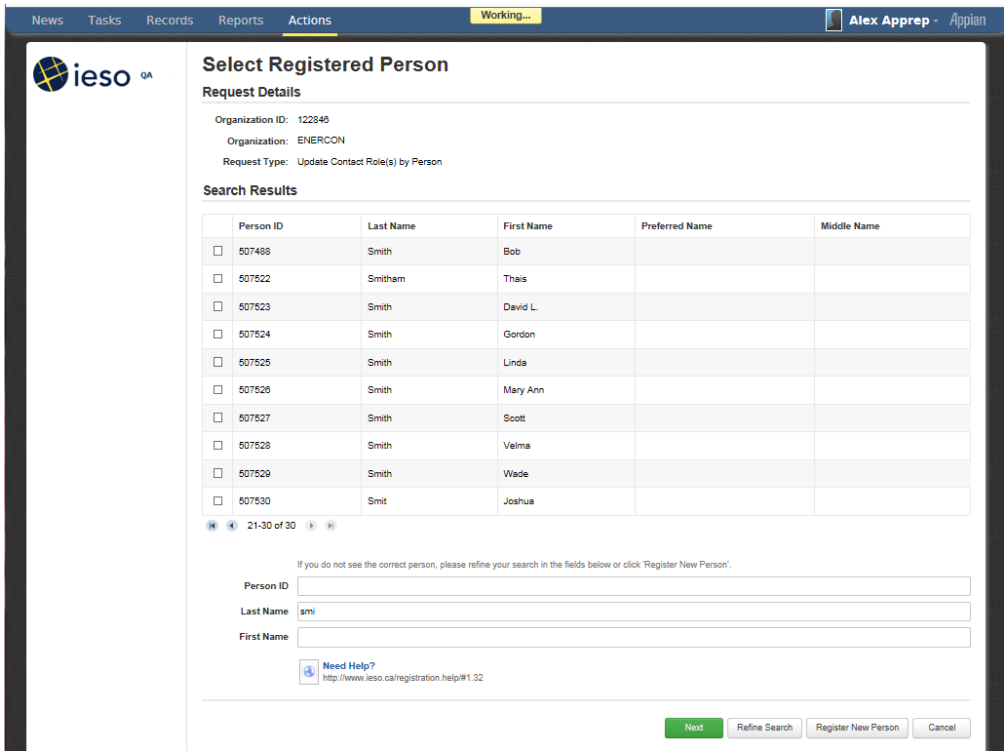


Figure 8-13: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search Results

The Applicant Representative can enter in both last and first names and do a search. For example, here is an example for "Smith" and "Bob".

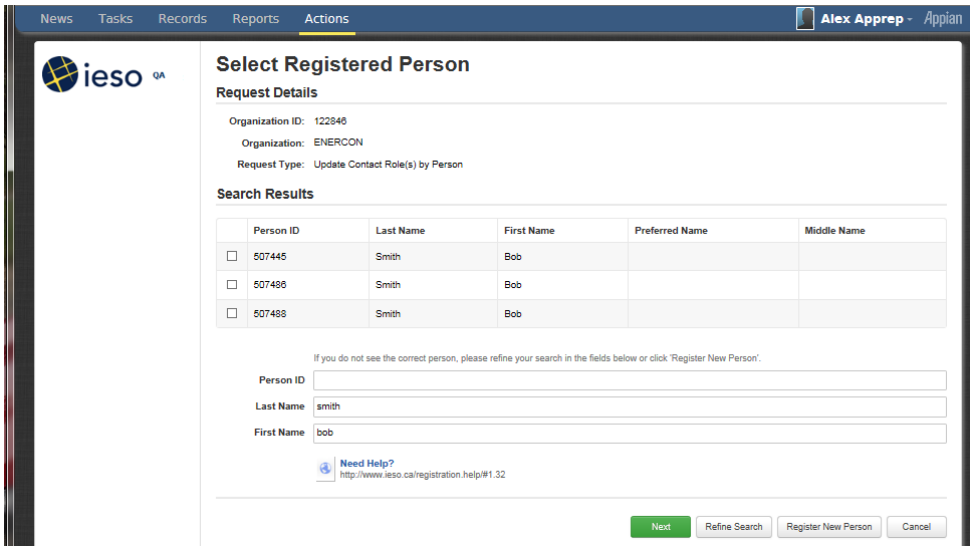


Figure 8-14: Online IESO Applicant Representative Update Contact Role(s) Registered Person Search Results 2

The Applicant Representative upon finding and choosing the right person, for example "Bob Smith" with the correct Person ID, would check mark that person in the list and click on

'Next'. The system will then present a list of available contact roles that person can be made a member of. The Applicant Representative must make absolutely sure they are choosing the correct person where multiple people have the same name.

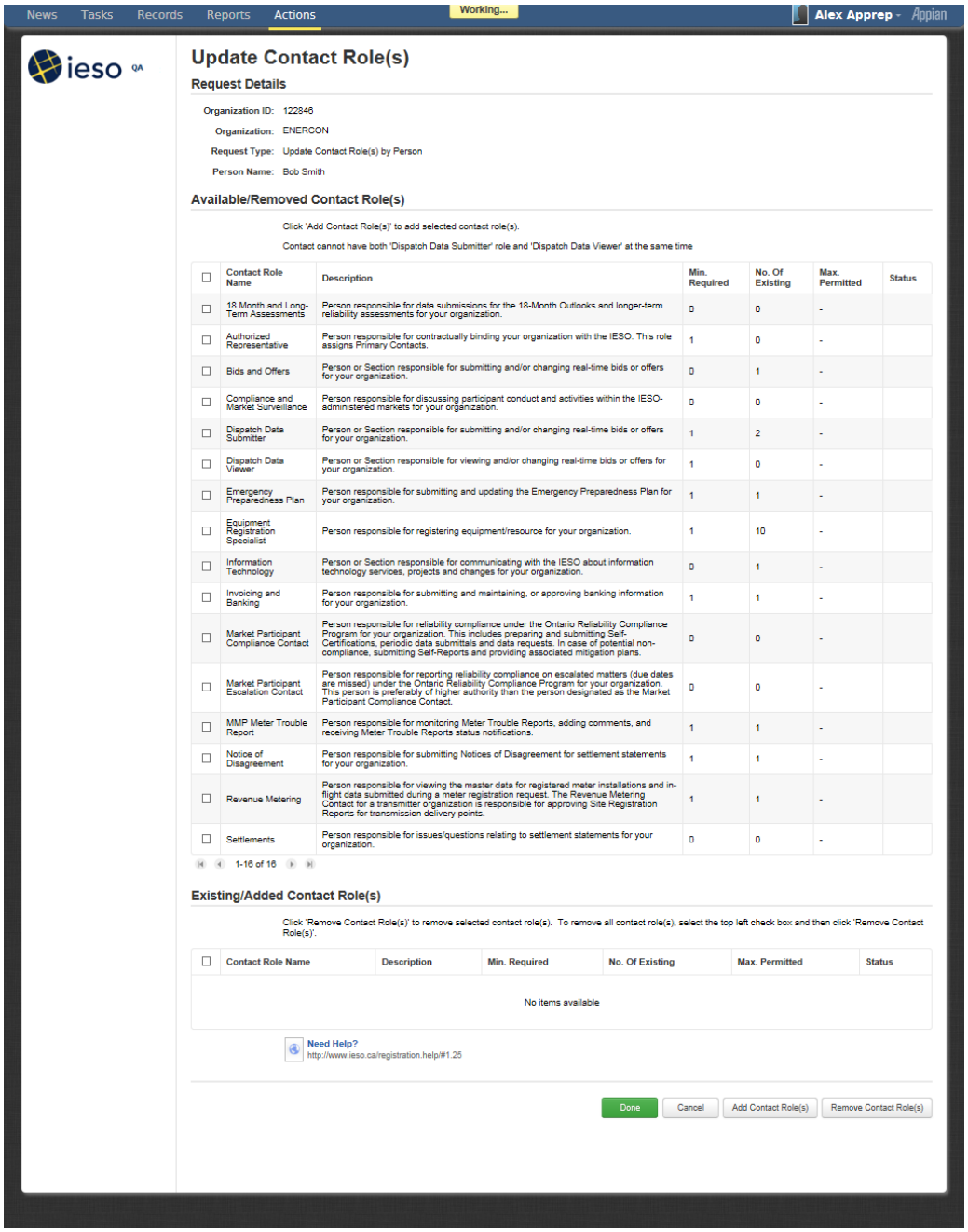


Figure 8-15: Online IESO Applicant Representative Update Contact Role(s) Selection for Selected Person

If the person needed to be added as a Settlements contact the Applicant Representative would check mark that Contact Role selection and click on the Add Contact Role(s) button.

In this example the page will update showing that one person will now be added to the Settlements Contact Role

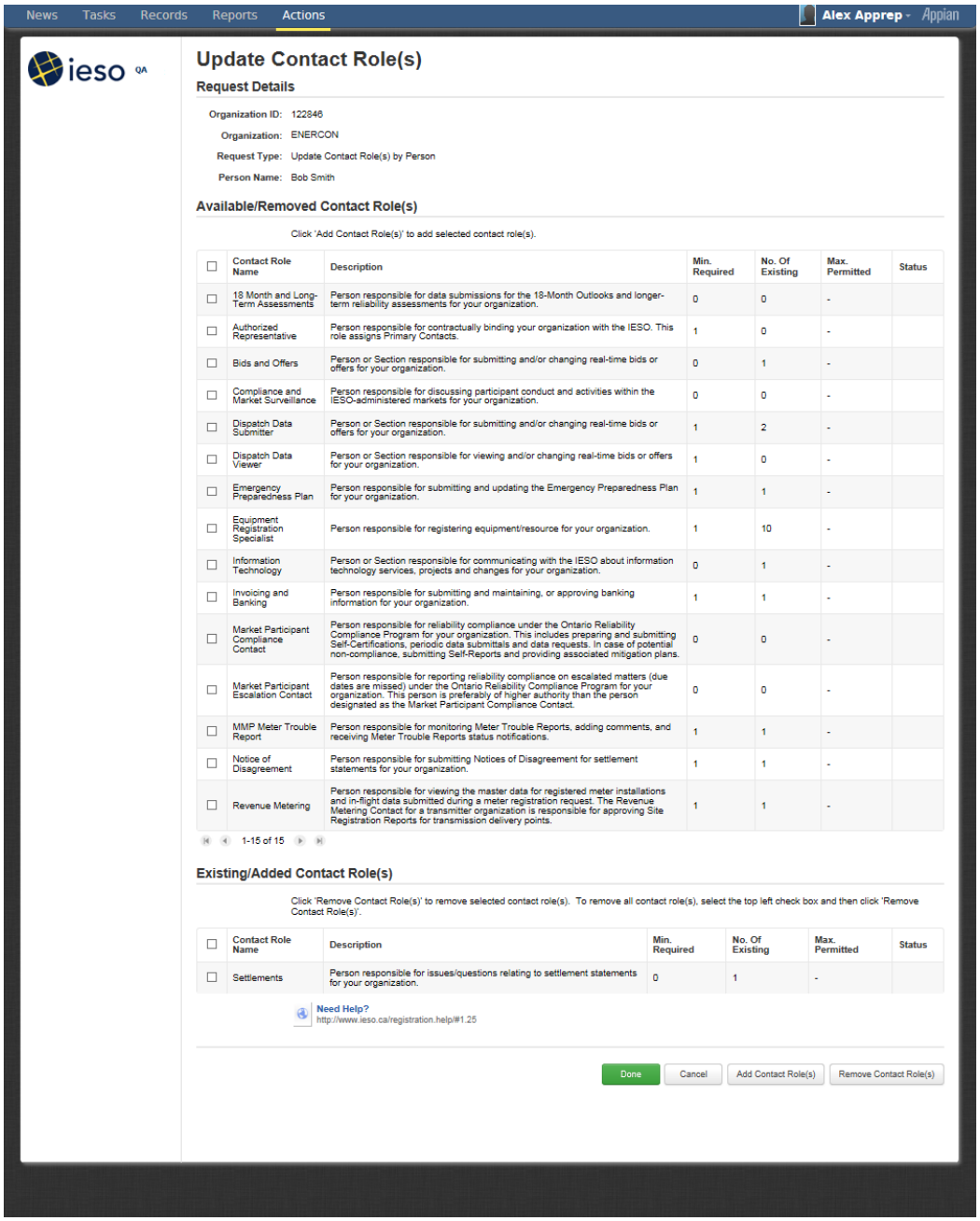


Figure 8-16: Online IESO Applicant Representative Update Contact Role(s) Added Person

The Applicant Representative will then click on the 'Done' button to continue with registering the person as a contact or 'Cancel' or choose and 'Add (other) Contact Role(s)' or choose and 'Remove (other) Contact Role(s)'. Upon choosing 'Done' the page shown in Figure 8-17 will be displayed.

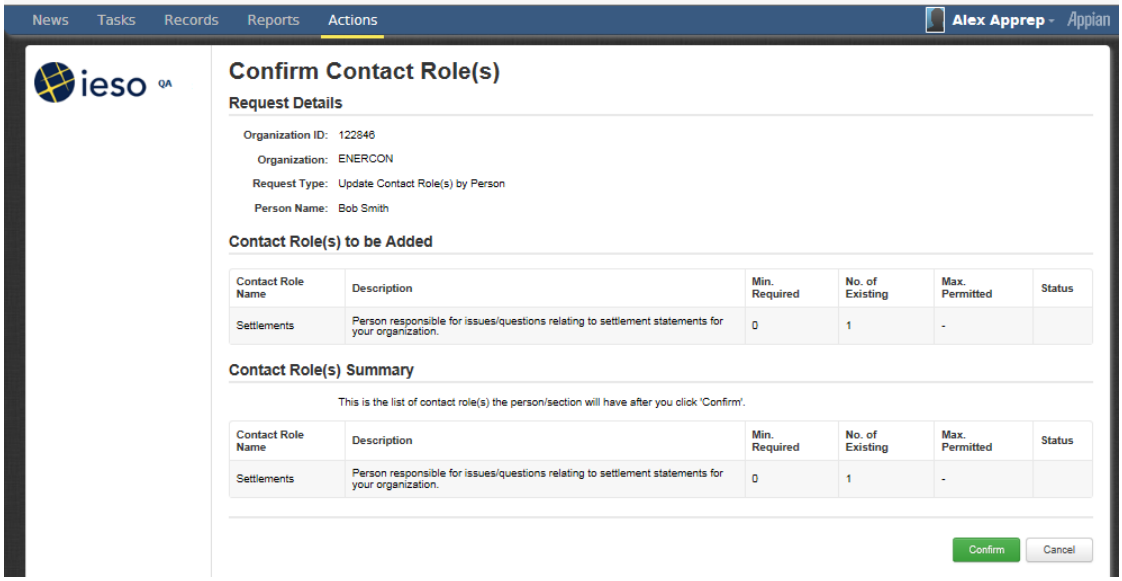


Figure 8-17: Online IESO Applicant Representative Update Contact Role(s), Confirmation

The Applicant Representative can choose 'Confirm' or 'Cancel'. Upon choosing confirm he/she will get one last chance to abort the addition or go ahead with it as shown in Figure 8-18.

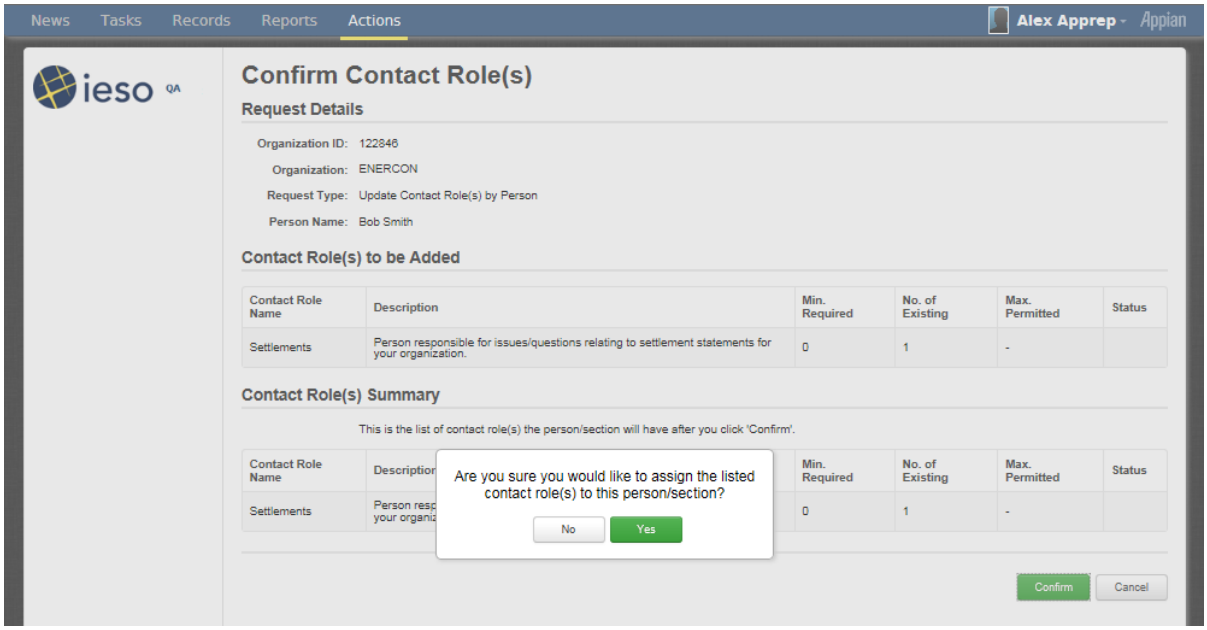


Figure 8-18: Online IESO Applicant Representative Update Contact Role(s), Final Confirmation

Alternatively, the Applicant Representative can choose the 'By Role' selection to retrieve all applicable roles for their organization's active participations. This will result in a list similar to the one shown in Figure 8-19.

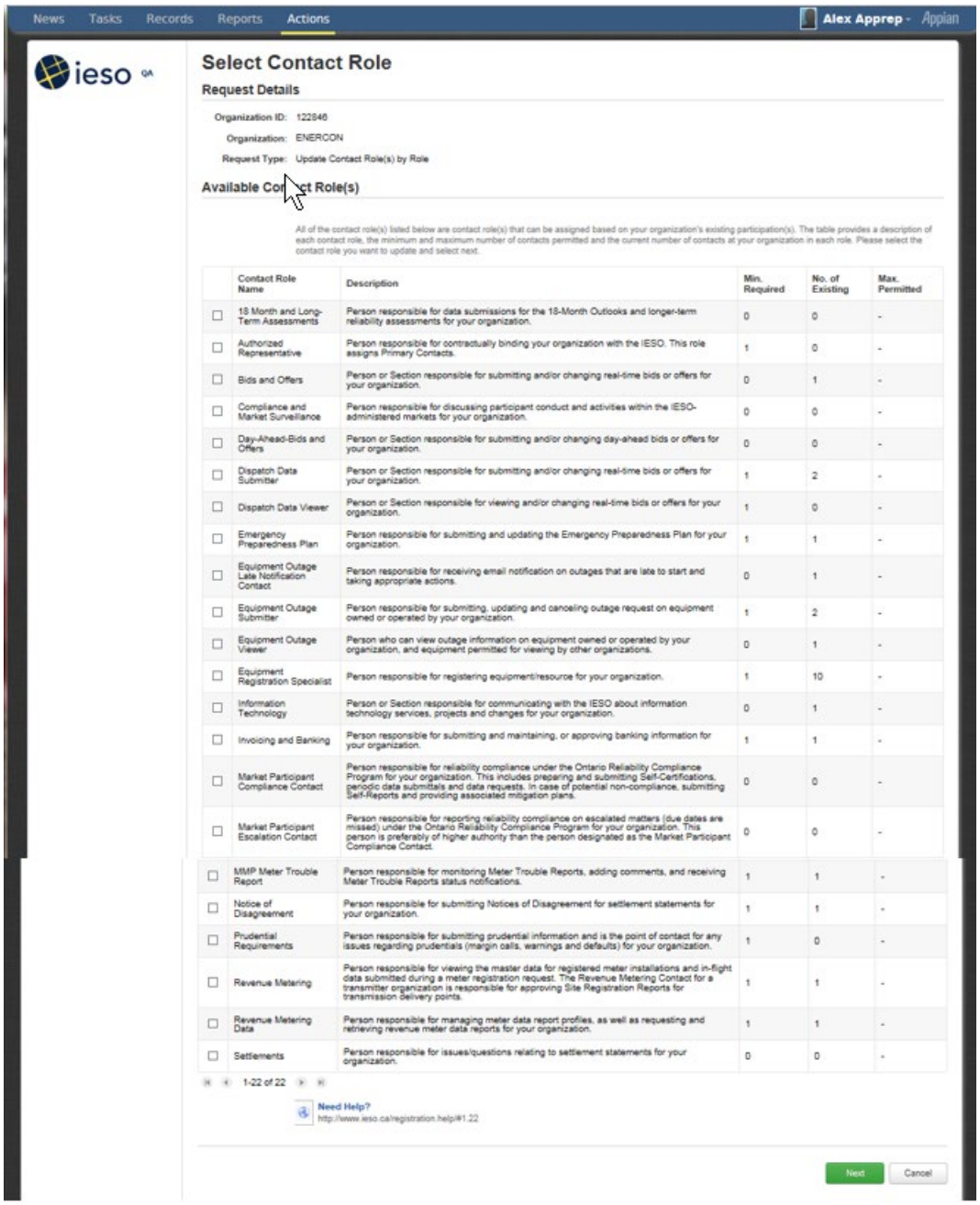


Figure 8-19: Online IESO Applicant Representative Update Contact Role(s) Select Contact Role List

Choosing any contact role – for example, Dispatch Data Submitter and clicking on the Next button will show a list of those already in that role (Figure 8-20) and options to Cancel, Remove Person or Add Person or choose 'Done'. Choosing Add Person will provide the 'Search for a Registered Person' page as shown above in Figure 8-6.

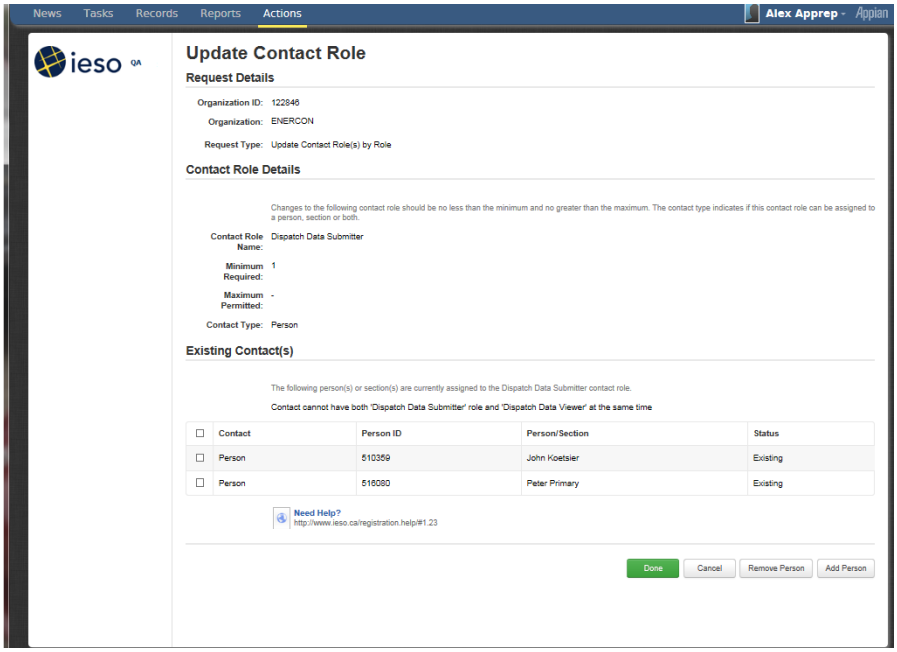


Figure 8-20: Online IESO Applicant Representative Update Contact Role(s) – Existing Contacts

Choosing the desired "Bob Smith" person and the Next button will result in that shown in Figure 8-21. The existing people will show as existing and "Bob Smith" with no status.

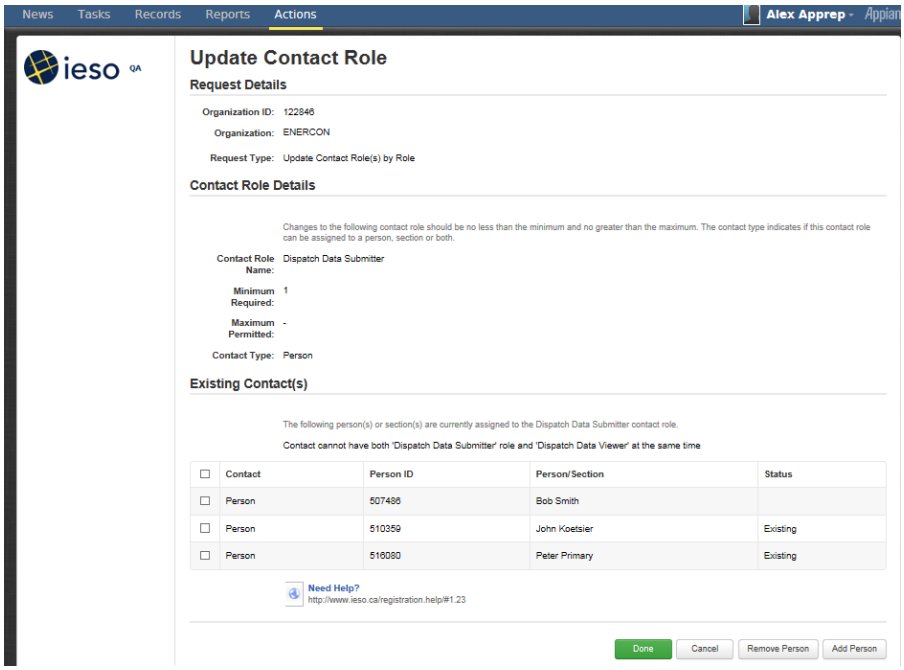


Figure 8-21: Online IESO Applicant Representative Update Contact Role(s) – Existing plus New Contacts

Clicking on done will display a primary Confirmation page as in Figure 8-22. Clicking on Confirm will prompt the Applicant Representative to choose Yes or No to proceed. Choosing 'Yes' will add the person to the contact role.

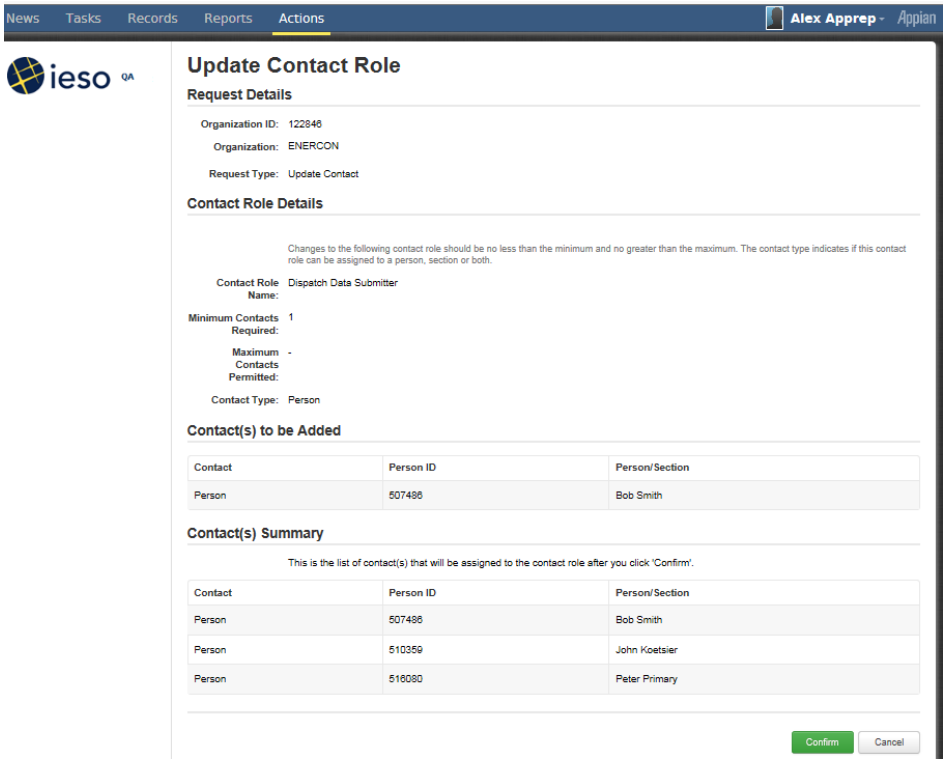


Figure 8-22: Online IESO Applicant Representative Update Contact Role(s) – Primary Confirmation

8.1.2.2 Rights Administrator

Successful login to the Online IESO Registration system by a Rights Administrator will take them to an Actions page as shown in Figure 8-23. The Rights Administrator user can choose "Grant/Revoke Access" to begin a process instance for granting or revoking IESO systems access for a User Account for the *participant*(s) the Rights Administrator represents. He or she can also choose to update their own personal contact information, request systems access to IESO systems (inside or outside of Online IESO) for themselves or request to register with the "Manage My Information" choice.

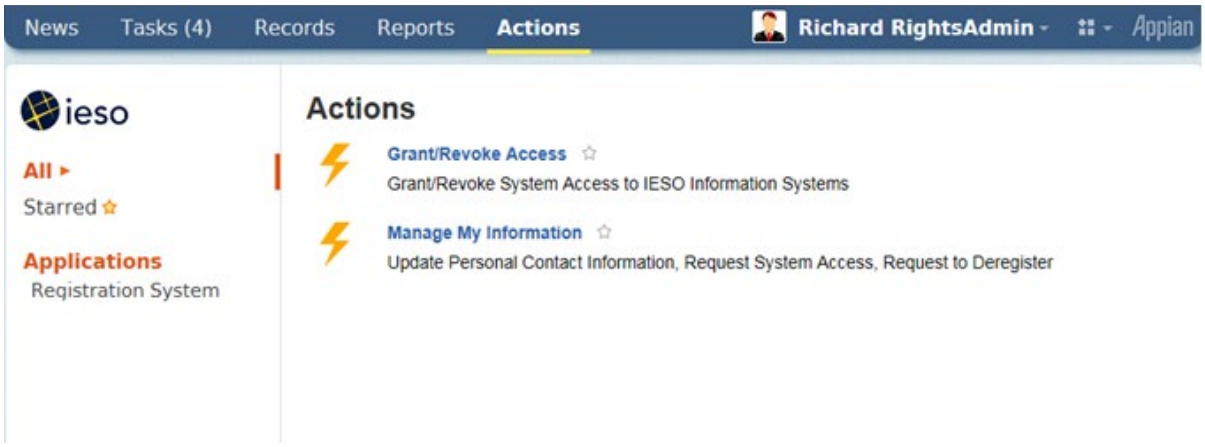


Figure 8-23: Online IESO Registration System Rights Administrator Actions Page

Other *participant* contacts can login to the Online IESO / Registration System and choose the "Manage My Information" task as shown by the example in Figure 8-24 to edit/update their own person information such as name, phone numbers, address, email addresses and any contact notes.

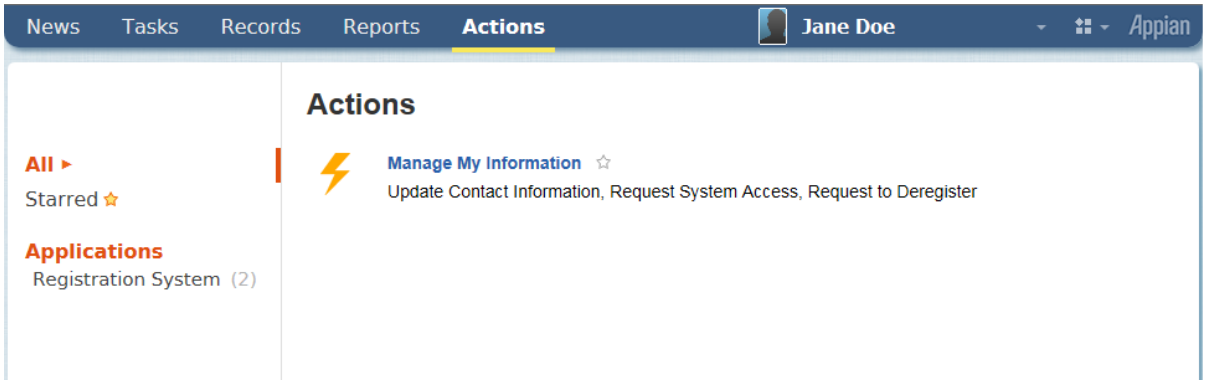


Figure 8-24: Online IESO Registration System Normal Contact Actions Page

8.1.3. Online IESO Registration System Grant/Revoke Access

8.1.3.1 Select System Access Request Type

Upon choosing the Grant/Revoke Access, task the Rights Administrator, if they only represent one *participant* organization, will be navigated to a "Select System Access Request Type" page as shown by the example in Figure 8-26 where the *participant* organization they represent will be shown and a drop down selection list of the System Access Request Types can be chosen to start the process.

If the Rights Administrator represents multiple *participant* organizations, they will first be navigated to a page "Choose an Organization" as shown by the example in Figure 8-25 where they must choose which organization they will be processing the Grant/Revoke access task for and click on the "Next" button.

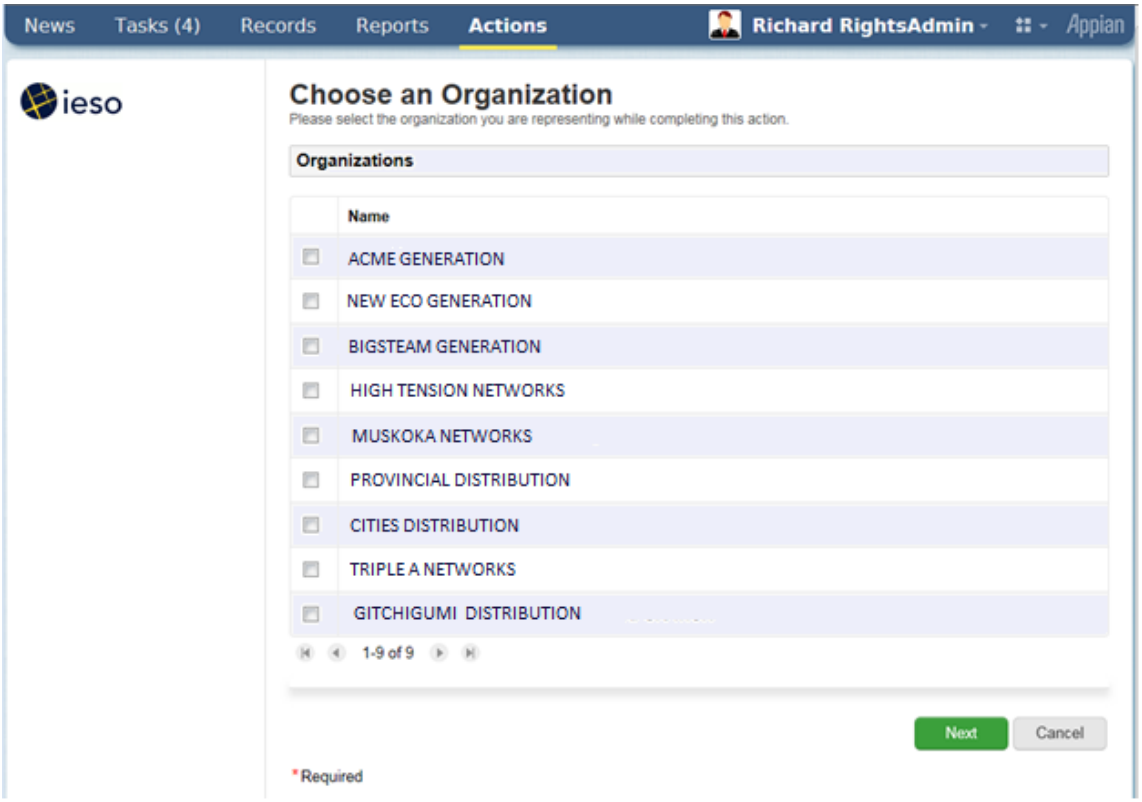


Figure 8-25: Choose an Organization Page

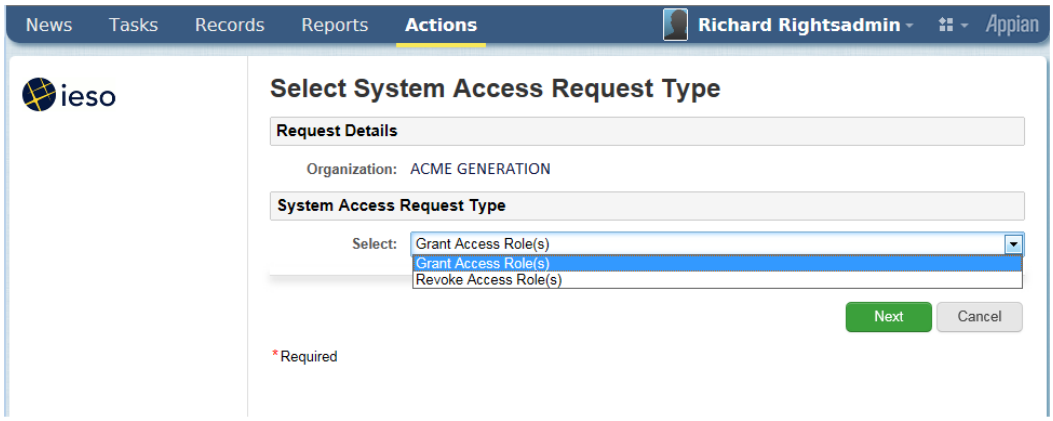


Figure 8-26: Select System Access Request Type Page

Upon landing on the Select System Access Request Type Page the Rights Administrator must choose either "Grant Access Role(s)" or "Revoke Access Role(s)" as required by the situation and click on the "Next" button. This will navigate the Rights Administrator to a "Select Account Type" page as shown in Figure 8-27. In the example provided, a grant access role(s) request is shown. The page for revoke access role(s) will be similar.

Both the "Grant Access Role(s)" or "Revoke Access Role(s)" processes will require the selection of an account type. However, while the "Grant Access Role(s)" process will later let the Rights Administrator choose an existing person or machine account or create a new person or machine account, the "Revoke Access Role(s)" will only apply to existing person or machine accounts.

8.1.3.2 Select Account Type

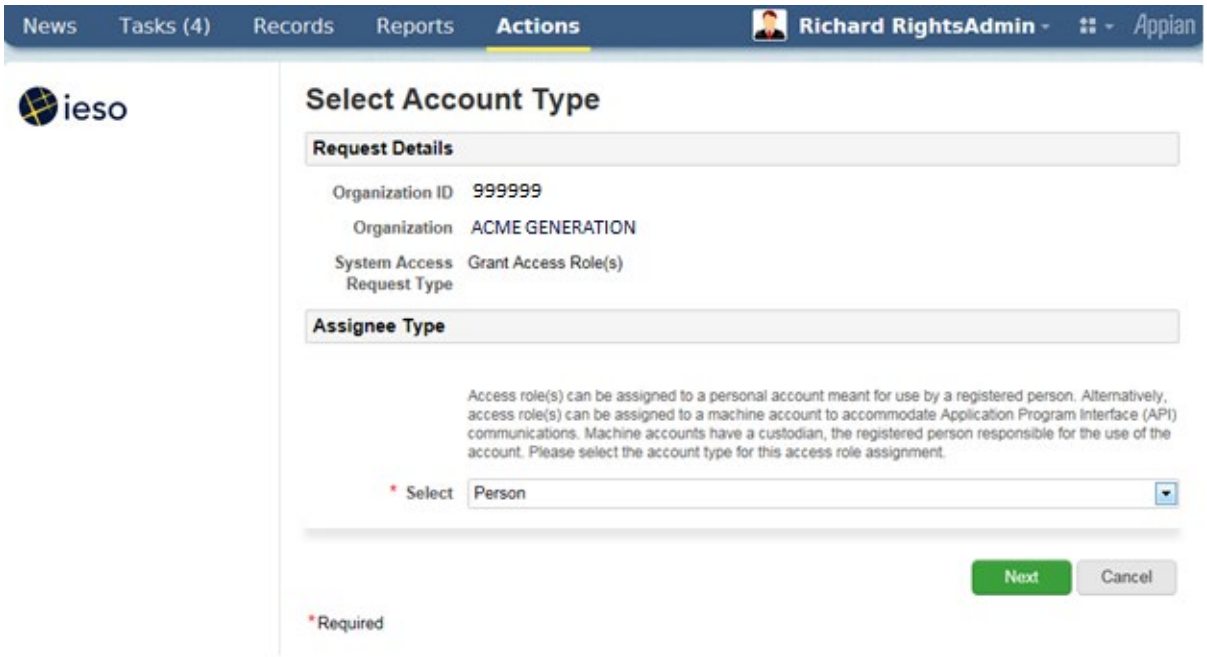


Figure 8-27: Select Account Type Page - Grant

The choices in the drop down list for account type are "Person" for use by an individual or "Machine" for use with API communications. The Rights Administrator must choose one or the other as the situation requires and click on the "Next' button to continue. This will navigate the Rights Administrator to a "Search for a Registered Person" page as shown in Figure 8-28 where they can search for the person who already possesses a user account. In the example provided, a grant access role(s) request page is shown. The page for revoke access role(s) will be similar for selecting a registered person.

8.1.3.3 Search and Select a Registered Person

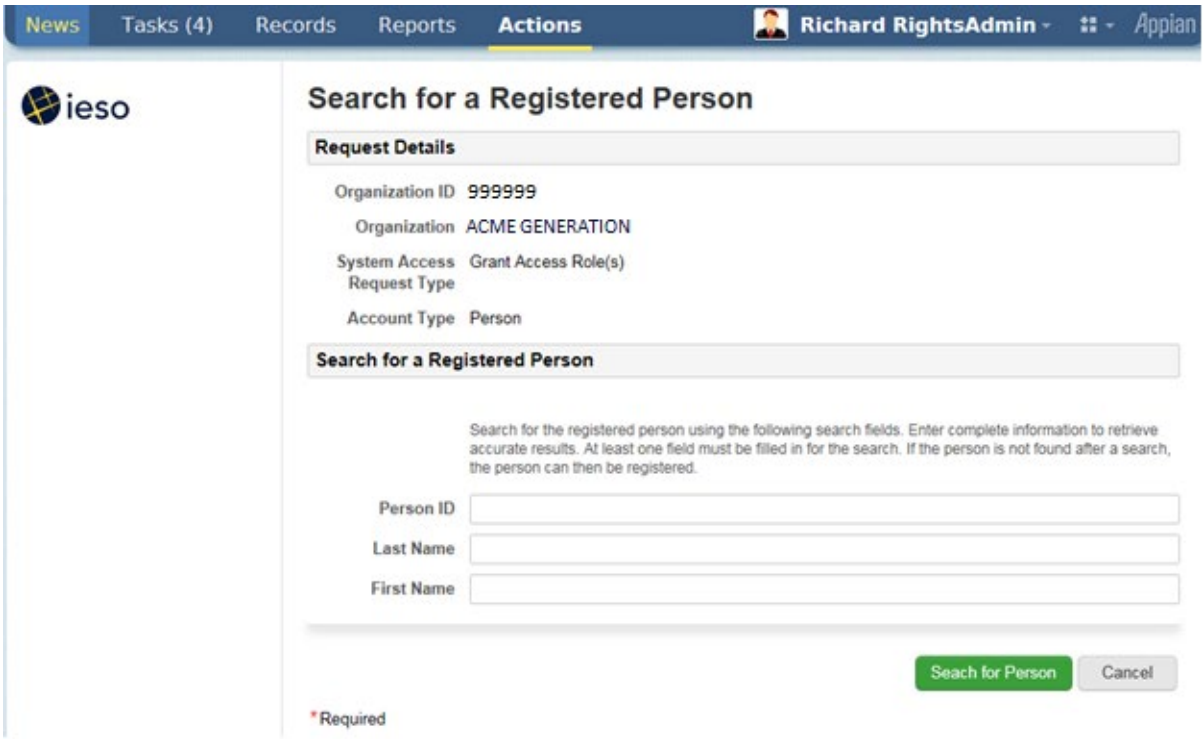


Figure 8-28: Search for a Registered Person Page - Grant

The Rights Administrator can search based on the Person ID if it is known (i.e. it should be) or the last name or first name of the person that the Grant/Revoke access role(s) request is for. Once the Rights Administrator has filled in the search parameters he or she must click on the "Next" button. This will start the search and return all existing results as shown by the example for "Select a Registered Person" page in Figure 8-29 or none if there is no match found.

It is possible that person record(s) may be retrieved for people with the same first and last names as the actual person the Rights Administrator is dealing with. It is up to the Rights Administrator to verify that an existing person record retrieved is for the intended person or not. For grant access role(s) requests, if no existing registered person record exists for the intended person, the Rights Administrator can proceed to creation of a new person record for the targeted individual. The Rights Administrator should conduct a thorough search via

the "Refine Search" button before selecting one of the retrieved person results and clicking on the "Next" button before attempting to create a new Person Record with the Register New Person.

Note that for all existing registered persons, User Accounts will already exist for them.

For Persons being newly registered by the Rights Administrator for the grant access role(s) request process, the Registration system will at the appropriate point in the process include within the grant ticket issued to the IESO, the instructions to create an account for the person with an automatically assigned User Name. Once IESO ITOPS Customer Support creates the actual account, the Registration system will email the person with the user account name details

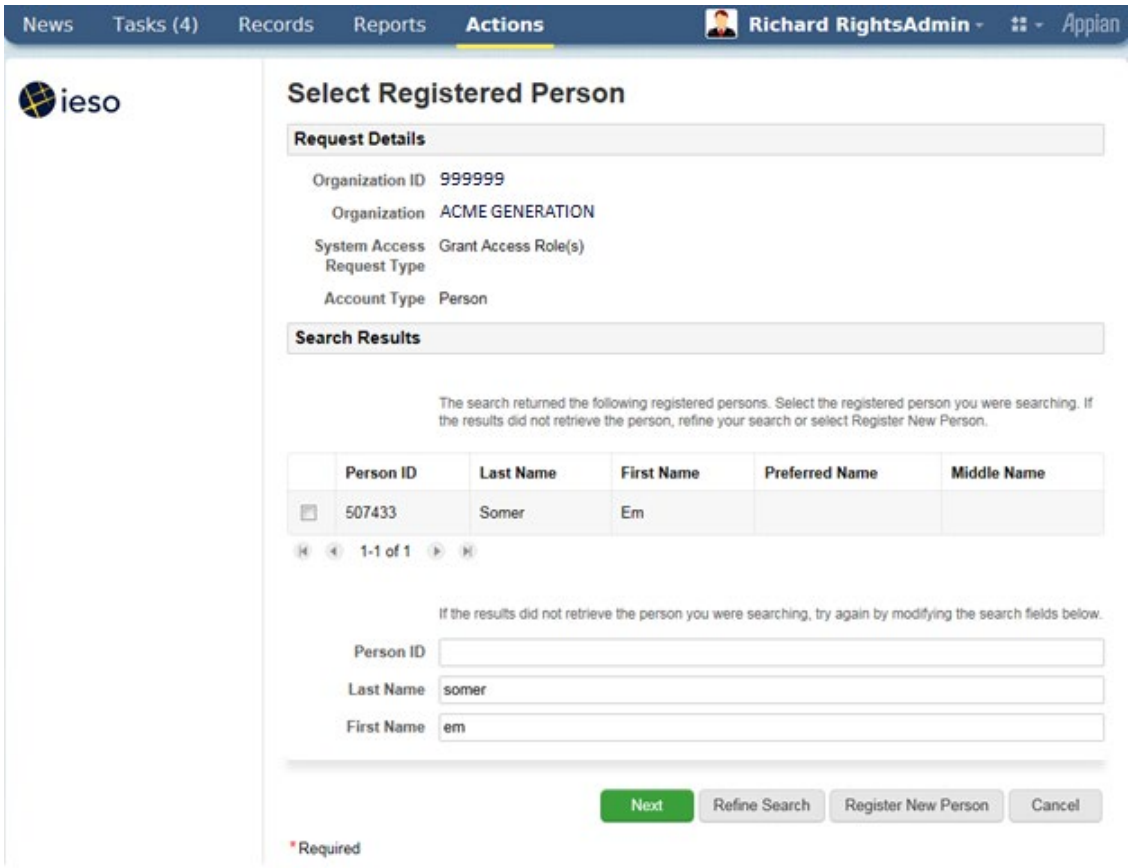


Figure 8-29: Select a Registered Person Page - Grant

Where an existing person record is not found and the Rights Administrator clicks on the "Register New Person" button, the Rights Administrator will be navigated to a "Register a New Person' page as shown by the example in Figure 8-30.

If the Rights Administrator does choose an existing person by check marking the row and clicking on the Next button he or she will be navigated to:

a) A "Select Access Roles to be Granted" page as shown in Figure 8-32 if the "Grant Access Role(s)" system access request type was chosen or
b) A "Select Access Roles to be Revoked" page as shown in Figure 8-34 if the "Revoke Access Role(s)" system access request type was chosen.

8.1.3.4 Register a New Person

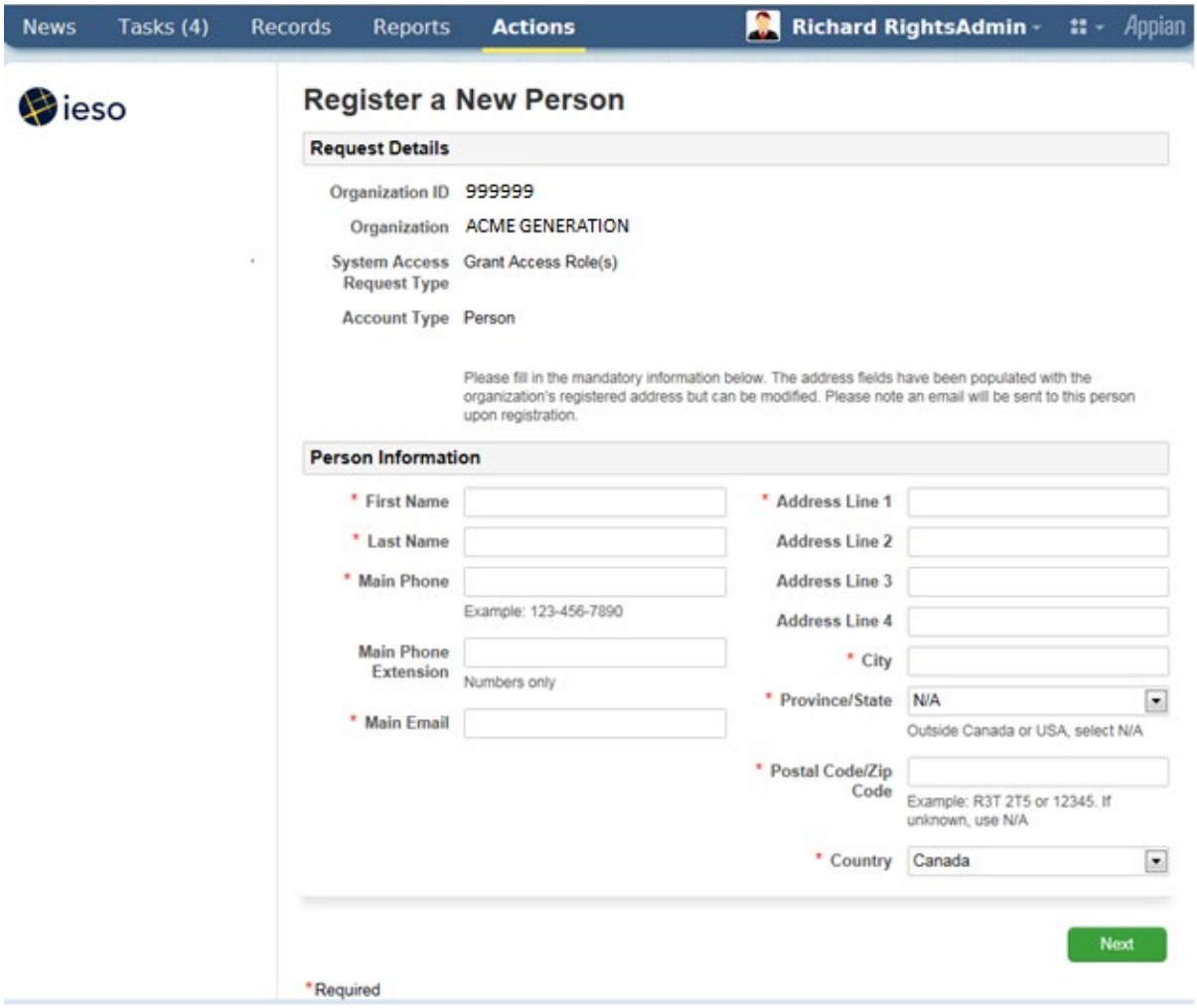


Figure 8-30: Register a New Person Page - Grant

All required attributes for the person must be filled in before clicking on "Next" button. A new unique Person ID will be automatically assigned by the system when it is saved and this can be referenced later as required.

When the Rights Administrator clicks on "Next" he or she will be navigated to a Confirm New Person Registration as shown in Figure 8-31. The Rights Administrator can choose to "Go Back" to correct or fill in any information or click on the "Next" button.

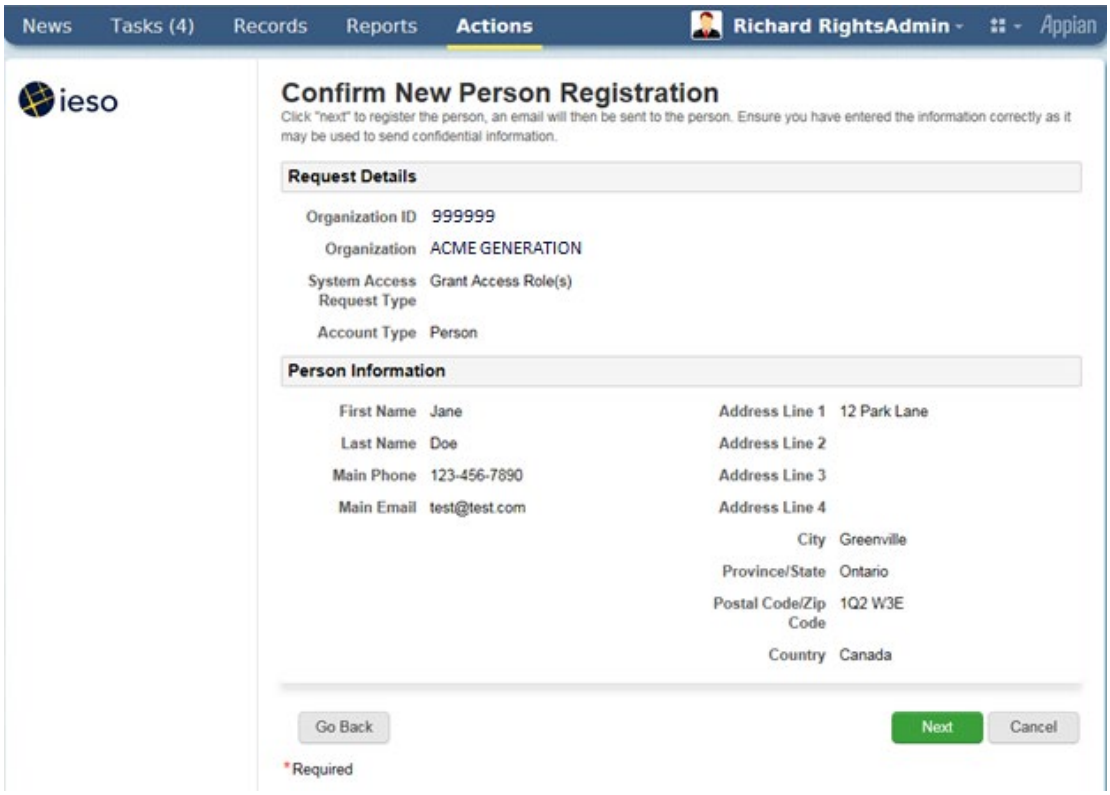


Figure 8-31: Confirm New Person Registration Page - Grant

After the Register and Confirm New Person Registration sub-process flow the Rights Administrator will then be navigated to the "Select Access Roles to be Granted" page as shown in Figure 8-32. Note that the Person ID information is now displayed.

In the case of revoking access roles, the Rights Administrator will then be navigated to the "Select Access Roles to be Revoked" page as shown in Figure 8-34.

The information displayed for an existing person being processed for either a grant or revoke access role(s) request will show any existing access roles (that a user account for the person is associated with) for the *participant* organization.

The "Select Access Role(s) to be Granted" page will only display personal account related access roles associated to the Market or Program participation that the organization has registered for. This is true for the "Select Access Role(s) to be Revoked" page as well.

This is to prevent unintended Grant or Revoke requests from being submitted to the IESO for the *participant* person. If an access role is not shown that the Rights Administrator thinks should be there, he or she should contact IESO Customer Relations. It is possible that a technical problem could exist or it may be possible that the *participant* needs to register for additional Markets or Programs. This document does not cover registering for Markets or Programs by a *participant.*

8.1.3.5 Select Access Roles to be Granted

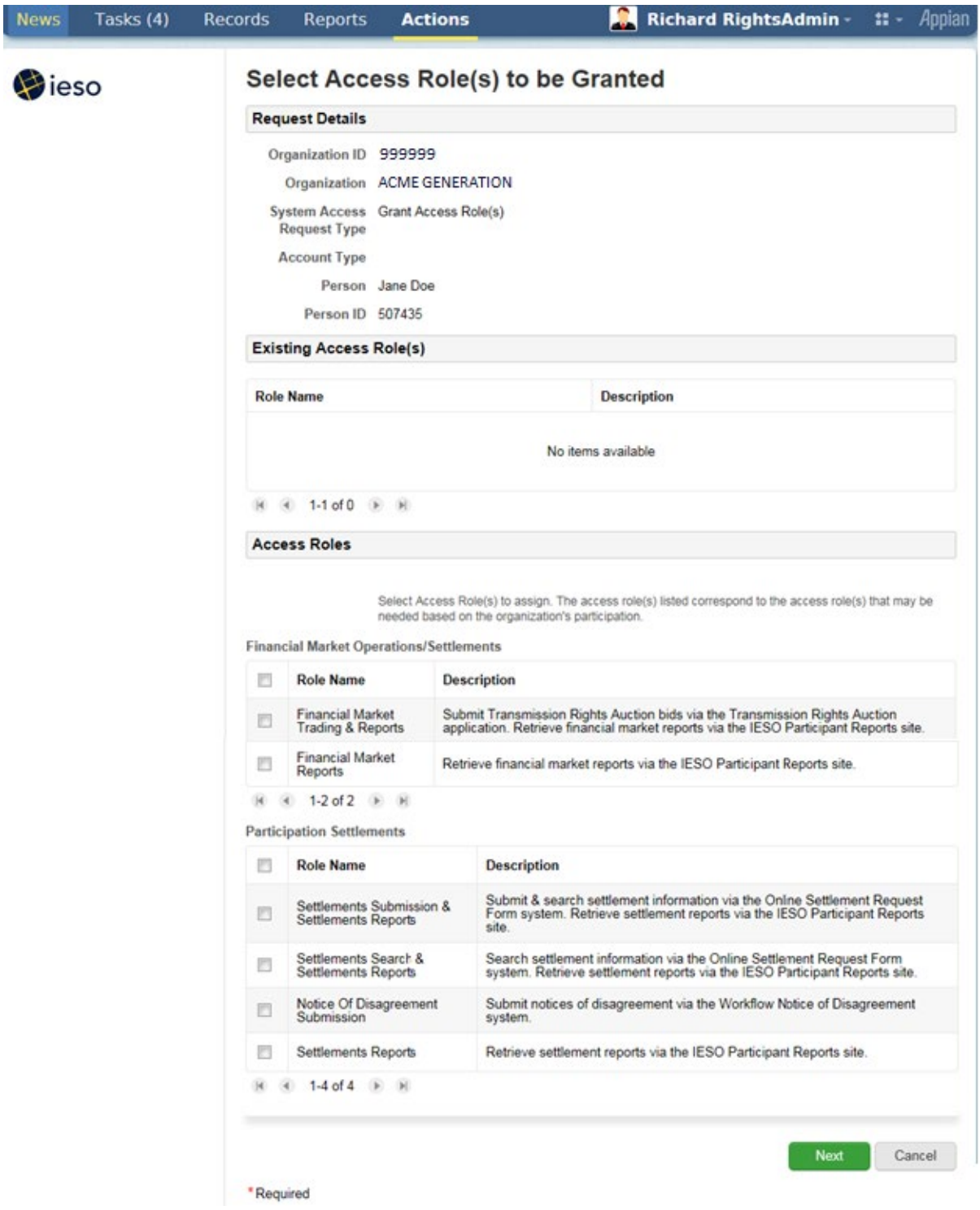


Figure 8-32: Select Access Roles to be Granted Page

The Rights Administrator should in the case of granting access roles to the person, choose only the required access roles (i.e. those authorized for the person by the *participant*) by

check marking them and clicking on the "Next" button. Multiple access roles available may be displayed by the first, next previous and last arrow buttons shown on the page.

Once the Rights Administrator has clicked on the "Next" button she or he will be navigated to a "Confirm Access Role(s) to be Granted" page as shown in Figure 8-33

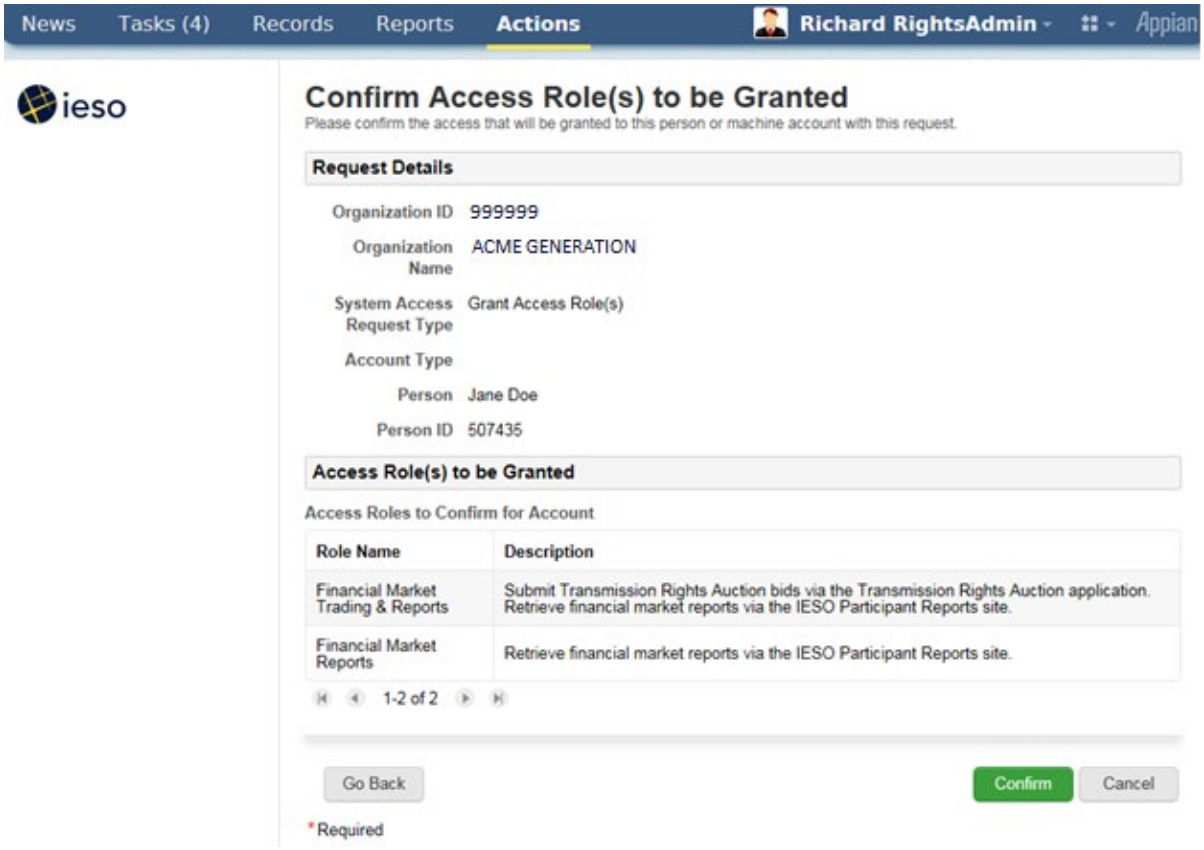


Figure 8-33: Confirm Access Role(s) to be Granted Page

The page will show the access roles selected and the Rights Administrator can use either the "Go Back" button to correct the selected access roles or click on the "Confirm" button and continue the process. Once confirmed the system will associate the access roles to the person's primary user account for the *participant* organization chosen and send a grant ticket to IESO ITOPS Customer support to enroll the person's account in the access roles requested.

8.1.3.6 Select Access Roles to be Revoked

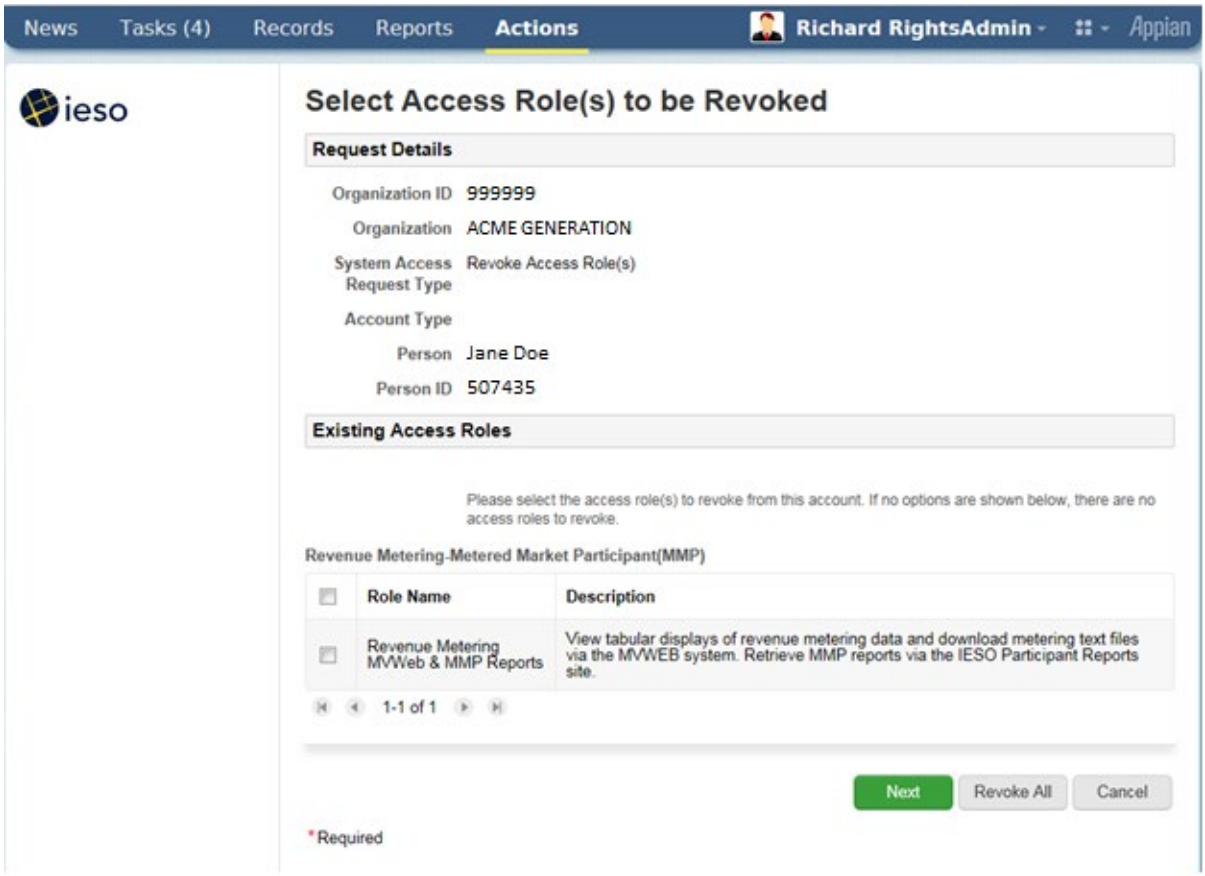


Figure 8-34: Select Access Roles to be Revoked Page

The "Select Access Role(s) to be Revoked" page will show only those access roles the person's user account is currently associated with.

The Rights Administrator should in the case of revoking access roles to the person, choose only the targeted access roles (i.e. those authorized for revocation by the *participant*) by check marking them and clicking on the "Next" button. Multiple access roles available may be displayed by the first, next previous and last arrow buttons shown on the page. The page does provide a "Revoke All" button to conveniently permit the Rights Administrator to request revocation of all access roles for the person's user account if that is what the Rights Administrator has been authorized to do.

Once the Rights Administrator has clicked on the "Next" button she or he will be navigated to a "Confirm Access Role(s) to be Revoked" page as shown in Figure 8-35

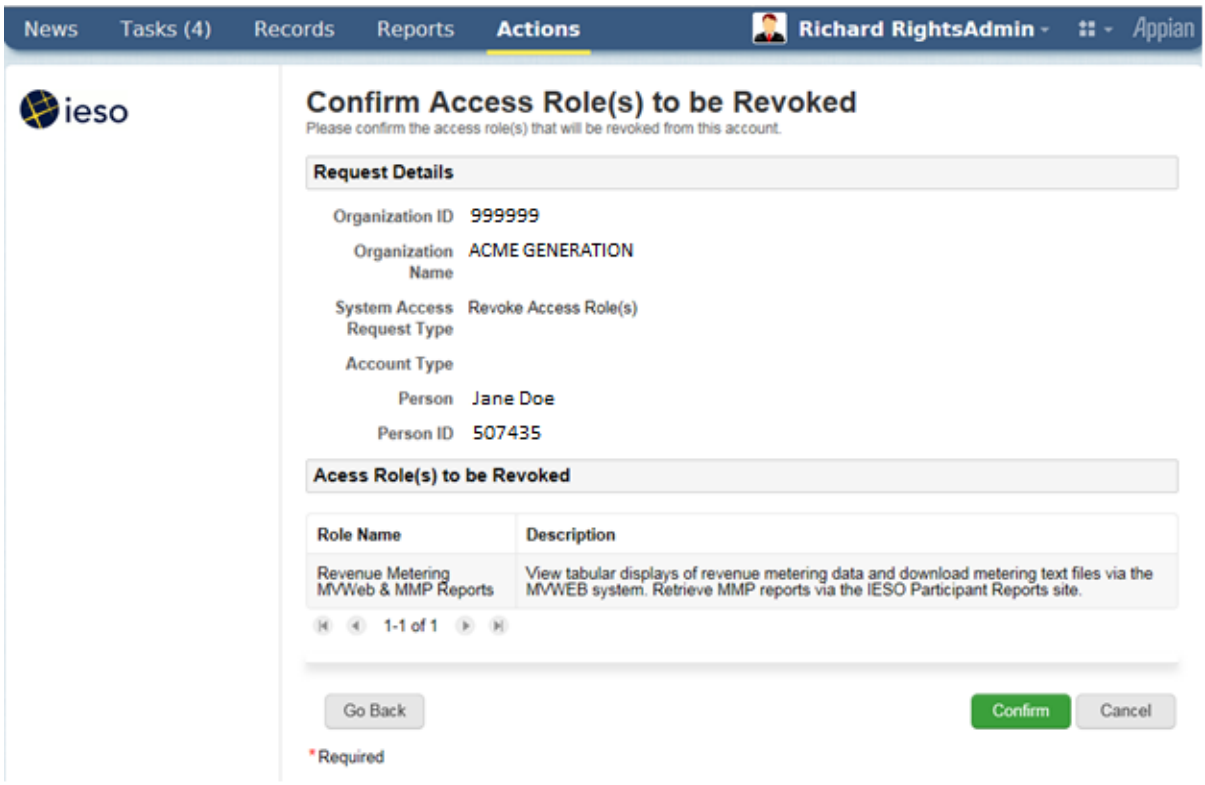


Figure 8-35: Confirm Access Role(s) to be Revoked Page

The page will show the access roles selected for revocation and the Rights Administrator can use either the "Go Back" button to correct the selected access roles or click on the "Confirm" button and continue the process. Once confirmed the system will process the access roles to be revoked for the person's primary user account for the *participant* organization chosen and send a revoke ticket to IESO ITOPS Customer support to remove the association that the person's account has with the access roles requested.

8.1.3.7 Machine Account Grant or Revoke Access Requests

When a Rights Administrator chooses the machine account selection within the dropdown on the "Select Account Type" page shown above in Figure 8-27 and clicks on the "next' button, she or he will be redirected to the "Select Machine Account" page as shown by the example in Figure 8-36 for grant access role(s) requests. The page for revoke access role(s) for machine account selection is shown by the example in Figure 8-37.

The Rights Administrator can choose to search for an existing machine account and choose it or click on the "New Machine Account" button if a new one is required. The Rights Administrator must know the Machine Account ID when he or she wants to find and choose an existing one and the choice of an existing one must be done carefully to prevent unintended access role changes and potential confidentiality breaches or loss of access.

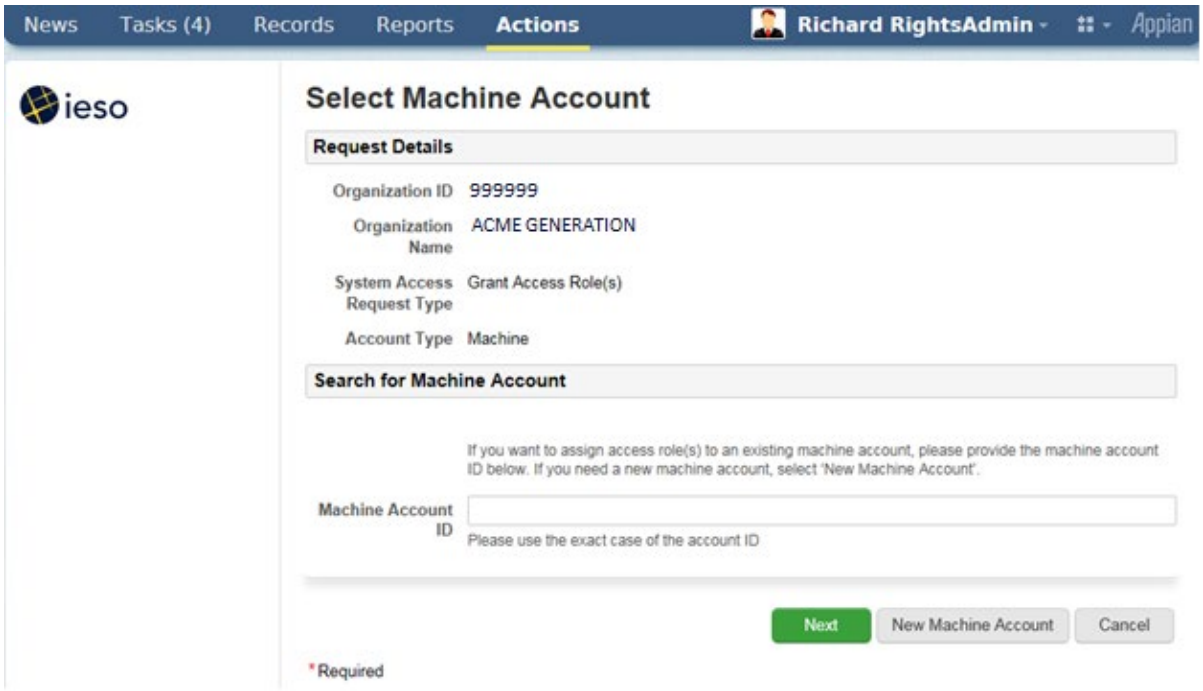


Figure 8-36: Select Machine Account Page - Grant

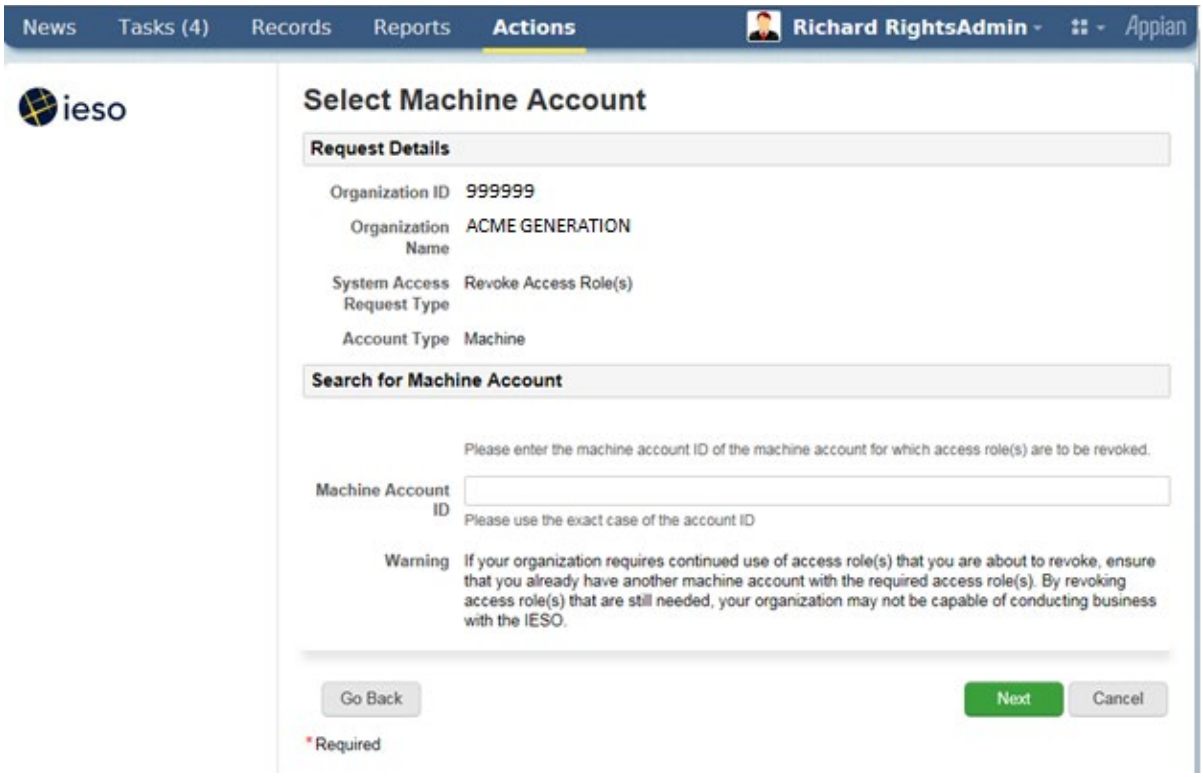


Figure 8-37: Select Machine Account Page - Revoke

Note the warning regarding revocation of machine account access roles on the page.

If the Rights Administrator enters a non-existent Machine Account ID it will not be found and the system will inform the Rights Administrator when he or she clicks on the "Next" button.

If a machine account ID is found when the Next" button is clicked, a "Confirm Existing Machine Account" page will be displayed as shown in the example in Figure 8-38. The page shown is for grant access role(s). The one for the revoke access roles for machine account process is similar.

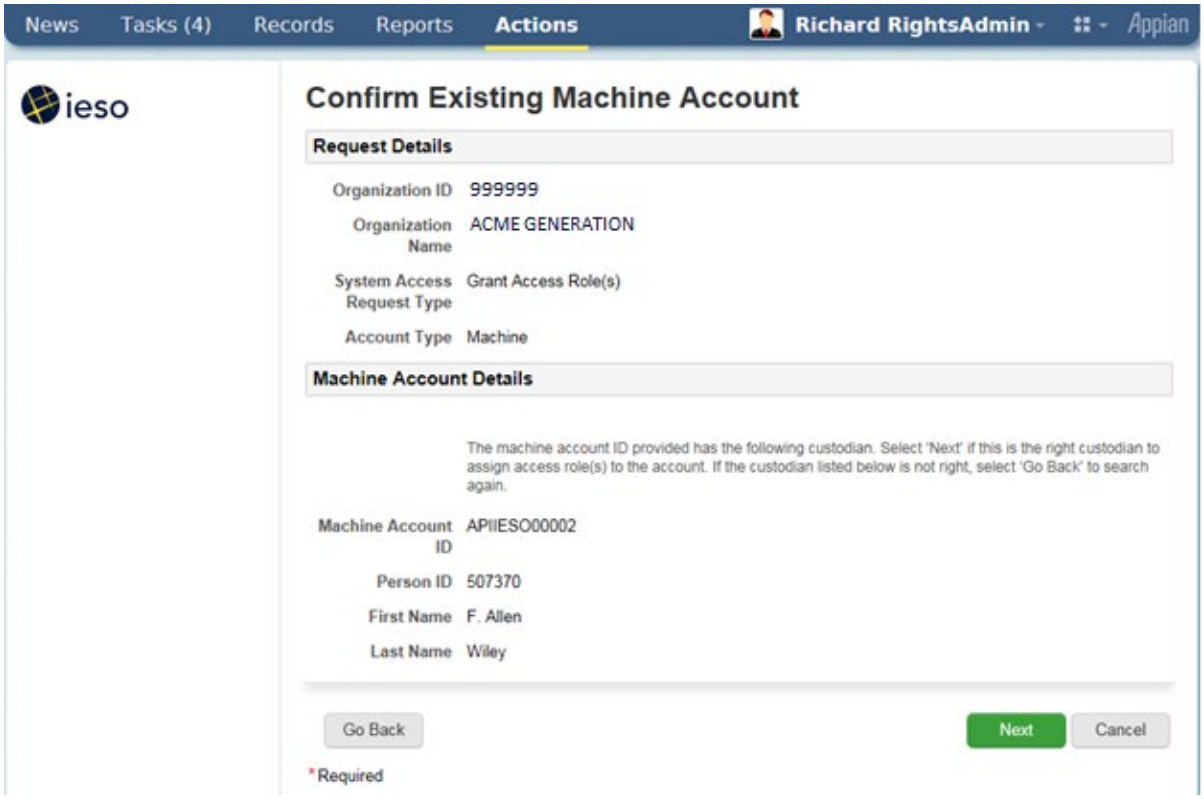


Figure 8-38: Confirm Existing Machine Account Page - Grant

The "Confirm Existing Machine Account" page will show the selected machine account and its custodian person information. This will enable the Rights Administrator to verify that they have chosen the intended machine account to assign access roles to for the selected *participant.* If it is not the correct machine account, the Rights Administrator can use the "Go back" button to enter and search for the right one to use.

8.1.3.8 New Machine Account

When a Rights Administrator chooses the process to create a new machine account they will be navigated to the "Create Machine Account for Access Role Grant" page as shown by the example in Figure 8-39. The Rights Administrator must provide the IP Address assigned to the *participant* workstation or server where this machine account will be used so that the *IESO* can use it in defining firewall rules to permit communications between the selected *participant* workstation or server and *IESO* systems. The rationale is that machine account passwords assigned by *IESO* ITOPS Customer Support will be enduring and potentially more subject to a breach of security so firewall rules at the *IESO* will limit the use of the machine account to the registered *participant* system.

Once the Rights Administrator enters the *participant* IP address to be associated to the new machine account and clicks on the "Next" button, they will be navigated to the "Search for a Registered Person" page as shown in Figure 8-28 to start the process to choose a Custodian for the machine account. Through the person selection process the Rights Administrator

can choose to either choose to assign an existing person to the machine account as custodian or register a new person as custodian as shown in Figures 8-29 through 8-31.

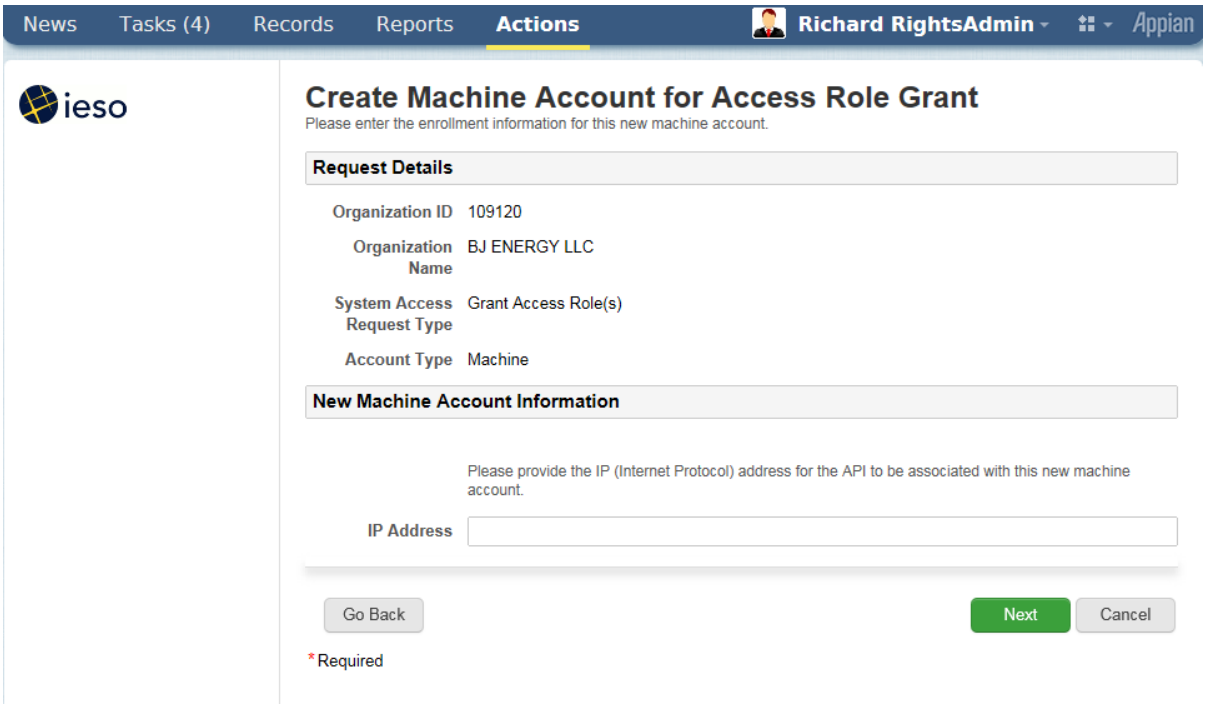


Figure 8-39: Create Machine Account for Access Role Grant Page

Once the Rights Administrator has either:

a) Confirmed an existing machine account to be used or
b) Chosen or entered the custodian person associated with the new machine account

he or she will be navigated to the Select Access Role(s) to be Granted" page for the machine account as shown by the example in Figure 8-40.

For revocation of access role requests for existing machine accounts the Rights Administrator will be navigated to a Select Access Role(s) to be Revoked" page similar to that shown by Figure 8-34 except that only machine account access role associated to the account will be available for selection.

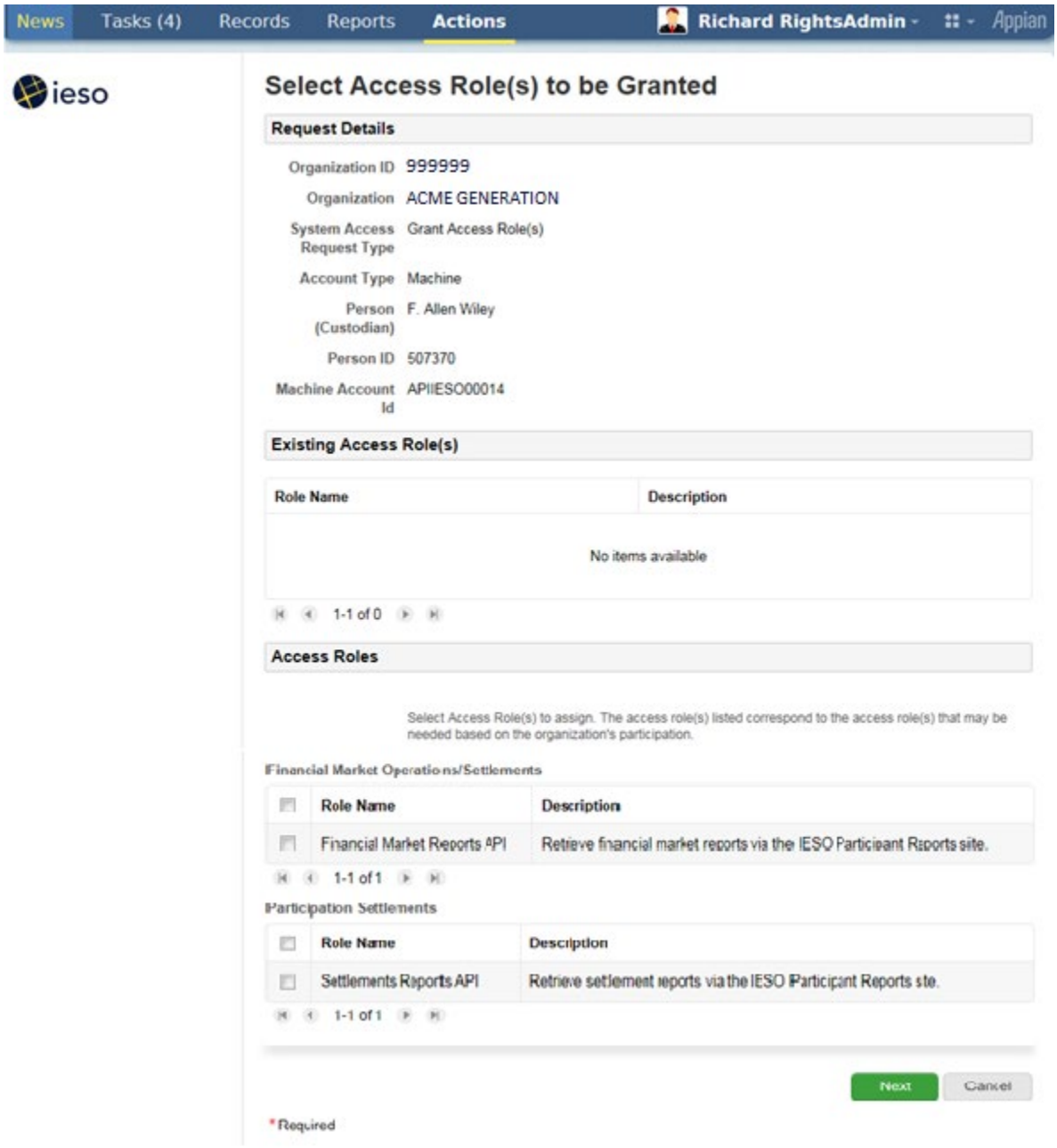


Figure 8-40: Select Access Role(s) to be Granted – Machine Account Page

The information displayed for an existing machine account/custodian being processed for a new grant or revoke access role will show any existing access roles (that the machine account/custodian is associated with) for the *participant* organization.

The "Select Access Role(s) to be Granted" page(s) will only display machine account related access roles associated to the Market or Program participation that the organization has registered for. This is to prevent unintended 'grant' requests from being submitted to the

IESO for the *participant* machine account. If an access role is not shown that the Rights Administrator thinks should be there, he or she should contact *IESO* Customer Relations. It is possible that a technical problem could exist or it may be possible that the *participant* needs to register for additional Markets or Programs.

The Rights Administrator should in the case of granting access roles to the machine account, choose only the required access roles (i.e. those authorized for the machine account by the *participant*) by check marking them and clicking on the "Next" button. Multiple access roles available may be displayed by the first, next previous and last arrow buttons shown on the page.

Once the Rights Administrator has clicked on the "Next" button she or he will be navigated to a "Confirm Access Role(s) to be Granted" page as shown in Figure 8-41.

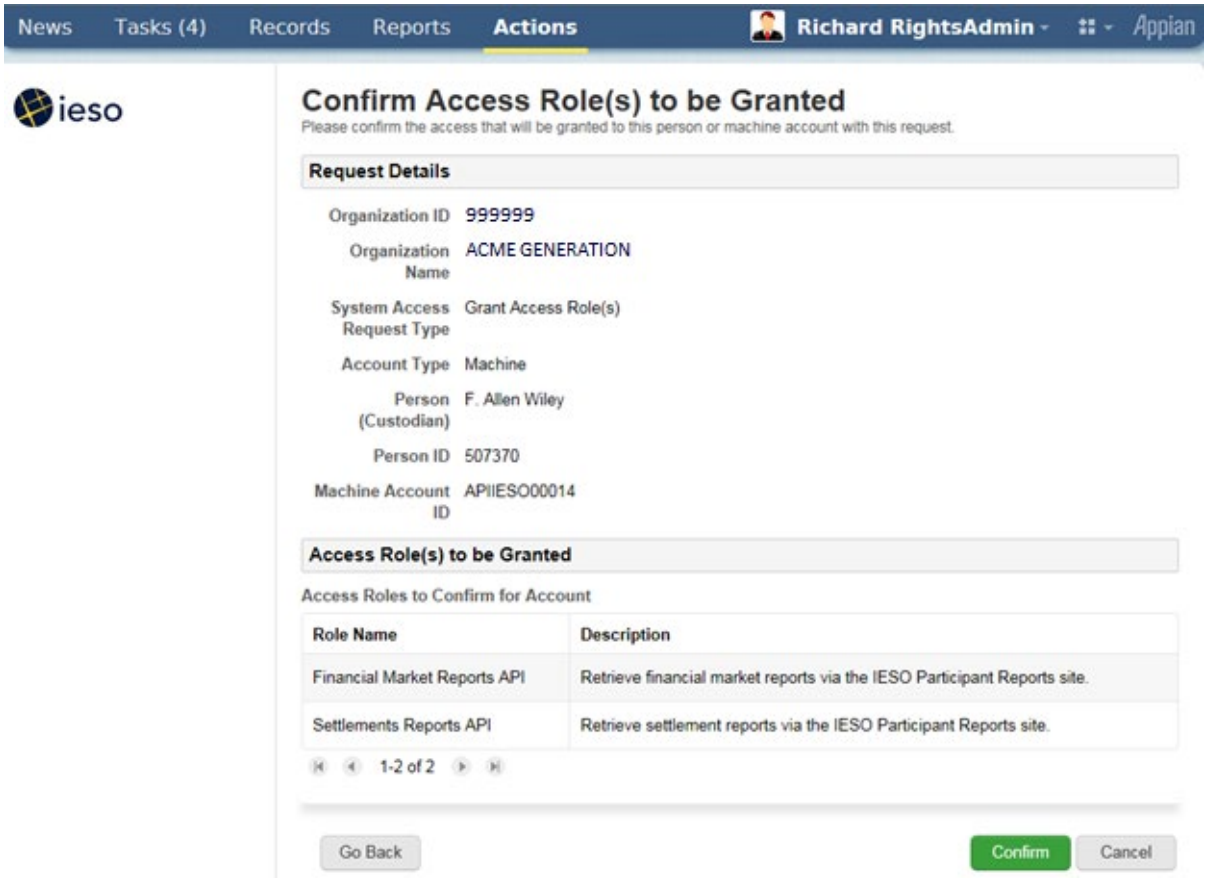


Figure 8-41: Confirm Access Role(s) to be Granted – Machine Account Page

The page will show the access roles selected to be granted and the Rights Administrator can use either the "Go Back" button to correct the selected access roles or click on the "Confirm" button and continue the process. Once confirmed the system will associate the access roles to the machine account for the *participant* organization chosen and send a grant ticket to *IESO* ITOPS Customer support to enroll the machine account in the access roles requested.

For revoke access role(s) requests for machine accounts upon selection by the Rights Administrator of the required access roles to be revoked and clicking on the "Next" button (or use of the "Revoke All" button) she or he will be navigated to a Confirm Access Role(s) to be Revoke page similar to that shown in Figure 8-35. The page will show the access roles selected for revocation and the Rights Administrator can use either the "Go Back" button to correct the selected access roles or click on the "Confirm" button and continue the process. Once confirmed the system will process the access roles to be revoked for the machine account for the *participant* organization chosen and send a revoke ticket to *IESO* ITOPS Customer support to remove the association that the machine account has with the access roles requested.

8.1.4. Registration System Mange Contact Information

When a Rights administrator or any normal *participant* contact person chooses the "Manage My Information" task as shown in Figures 8-23 or 8-24 above they will be navigated to a "Choose an Action" page where they can select the "Update Person Information" selection in the dropdown selection list as shown in the example in Figure 8-42.

Figure 8-42: Choose an Action Page

The user can then click on the "Continue" button to navigate to the "Update Person Information" page for their person record as shown in the example in Figure 8-43.

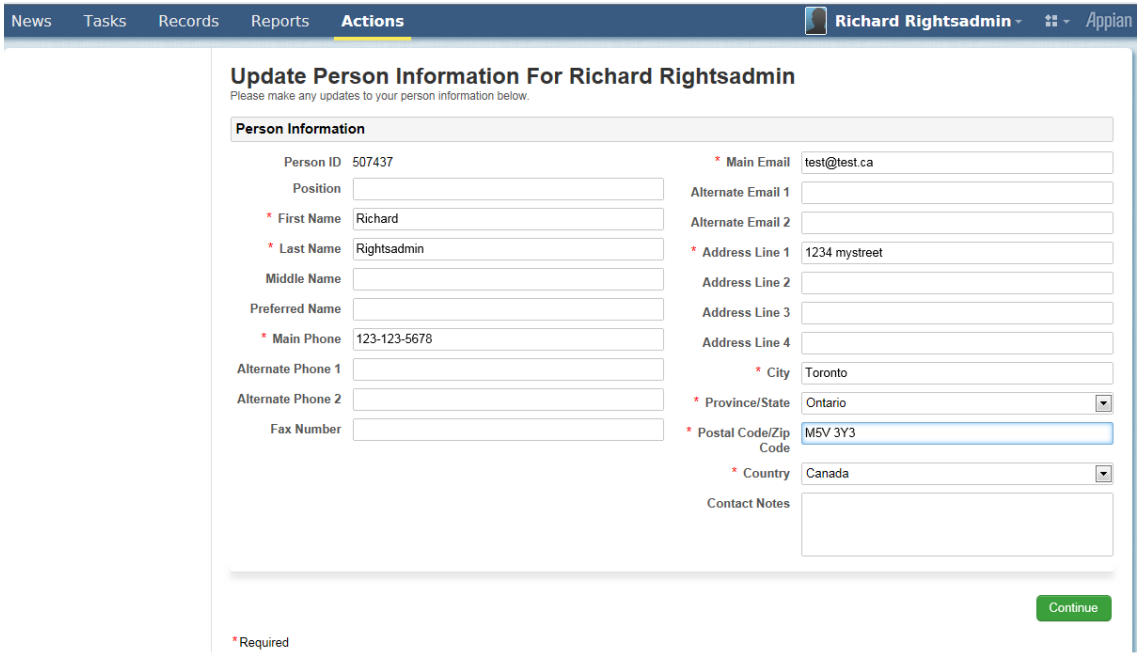


Figure 8-43: Update Person Information Page

The Person information retrieved will be that currently active on the system. However, all changes are maintained in historical records within the system. All of the required mandatory fields will of course be populated and these can be edited with updated information but they cannot be made blank and then saved. It is up to each person to maintain their own person information so that it is current and accurate. Once a *participant* contact is satisfied with any updates they can click on the "Continue" button. This will navigate them to a "Confirm Person Information" page as shown by the example in Figure 8-44.

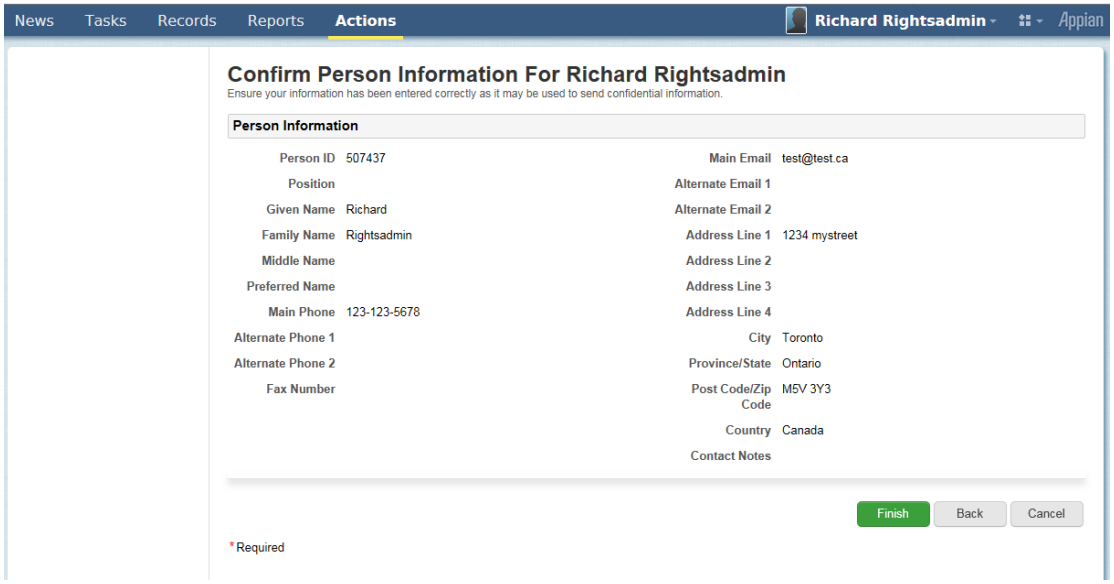


Figure 8-44: Confirm Person Information Page

Where the information shown on the "Confirm Person Information" page is not correct or incomplete the *participant* contact can choose to use the "Back" button to go back and edit the data and then use the "Continue" button to go the confirm page.

If the *participant* contact is satisfied with the 'person' information as shown on the page, he or she can choose to click on the "Finish" button. This will commit the data to the Online IESO Registration system.

For name, main phone and main email attribute updates committed to the Registration system; the system will automatically and transparently generate a change person ticket in the background to *IESO* ITOPS Customer Support to request an update to any associated accounts for the person record with those attribute values. This will ensure that any user personal and machine account information is kept up to date as well.

– End of Section –

9. Use of Account Provisioning Tools

9.1. Use of the Password Change & Reset Functions

Passwords used with User Accounts issued for use with the *IESO* Portal, Online IESO system, Reports site, Energy Market Interface (EMI), Prudential system and Outage Management (OM) system etc. can be changed or reset via 3 separate methods.

- Password change on first time login to the Portal or after verbal request to the *participant* Rights Administrator or IESO Customer Relations to have their password reset and a new temporary password issued to the user. Once the password has been changed on login to the Portal, the account may be used with the Portal, Online IESO system, Report site, Energy Market Interface or Outage Management system etc.
- Password Self Recovery during Portal, Energy Market Interface or Outage Management system login when a user as Forgotten their Password. This can only be done logging into those systems but not the Online IESO system or IESO Reports site. The user must have already selected their five security questions and answers to do this self-recovery.
- Password normal manual change after login via the Portal's 'Security Profile' password change capability located on the 'Security Profile' page

Note: The Portal, Online IESO, IESO Reports Site, Energy Market Interface and Outage Management System all use common single User Accounts. Changes to the password for a User Account within the Portal for example will automatically be applicable and usable for login to the Online IESO system, Reports site, Energy Market Interface and Outage Management System.

The user can and should after logging in to the Portal for the first time, select a personal security image and phrase along with five security questions and answer to be used for password self-recovery and stronger authentication when login circumstances warrant (i.e. different workstation used than normal or account used at abnormal time of day etc.).

- The user selected security image and phrase will be presented to the user during each subsequent login to the Portal. If they do not see the chosen image and phrase the user should suspect the authenticity of the Portal login pages. The security image and passphrase can be changed afterwards via the Security Profile page in the Portal.
- Five questions can be selected from a randomly produced short list from a larger number of possible predefined choices. The choices made available should meet all users' possible circumstances. Each user will be presented with different combinations of choices.

- Once the five security questions have been selected and answers input, the question choices can be changed after Portal logon at any time via the Security Profile page in the Portal.
- The answers to the security questions are not 'case sensitive' and can use any ASCII characters. However, the user should select 5 security questions that permit them to best enter an answer that has personal meaning in order to be easily remembered but at the same time not easily guessed by someone else.

9.1.1. Temporary Password Change

1. If the user is logging in for the first time to the Portal, EMI or OM system or if the *IESO* Customer Relations has had the user's password reset (based on request or a security need) then the user will be prompted to change the password when the attempt to login is made. Once the user has input their valid User Account (shown in Figure 9-1) and clicked on the "Continue" button he/she will be prompted to enter their password (shown in Figure 9-2). Note that the user should typically use lower case for their user account name on first time and subsequent logins and to set their security questions. The security system distinguishes between upper and lower case so a user account entered as upper case after first using lower case (or vice versa) will be seen as different and trigger a request for new security questions.

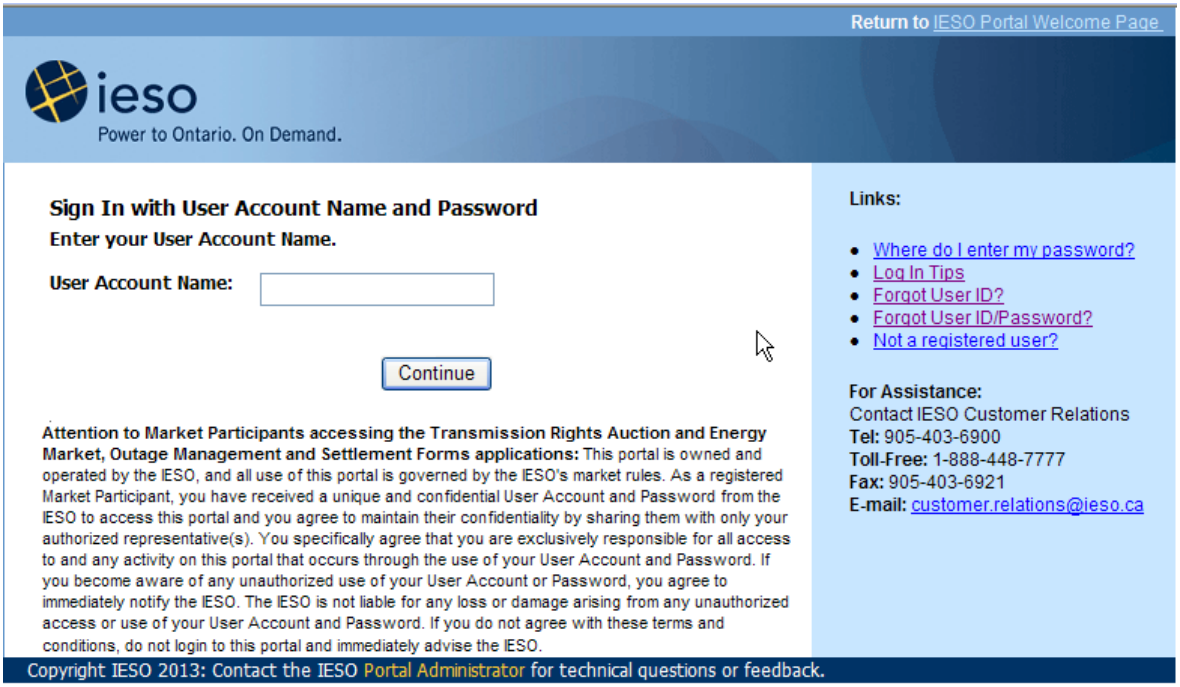


Figure 9-1: Portal / Identity Management Login – User Account Name Entry

Figure 9-2: Portal / Identity Management Login – Password Entry

2. After entering the password and clicking on the 'Enter' button the user will be presented with a change password page where they will be able to enter in the old password and then the new password twice as shown in Figure 9-3.
3. If the password entered was incorrect of if the user entered the wrong user account name for the password the user will see an error message as shown in figure 9-4 and the user may try again.

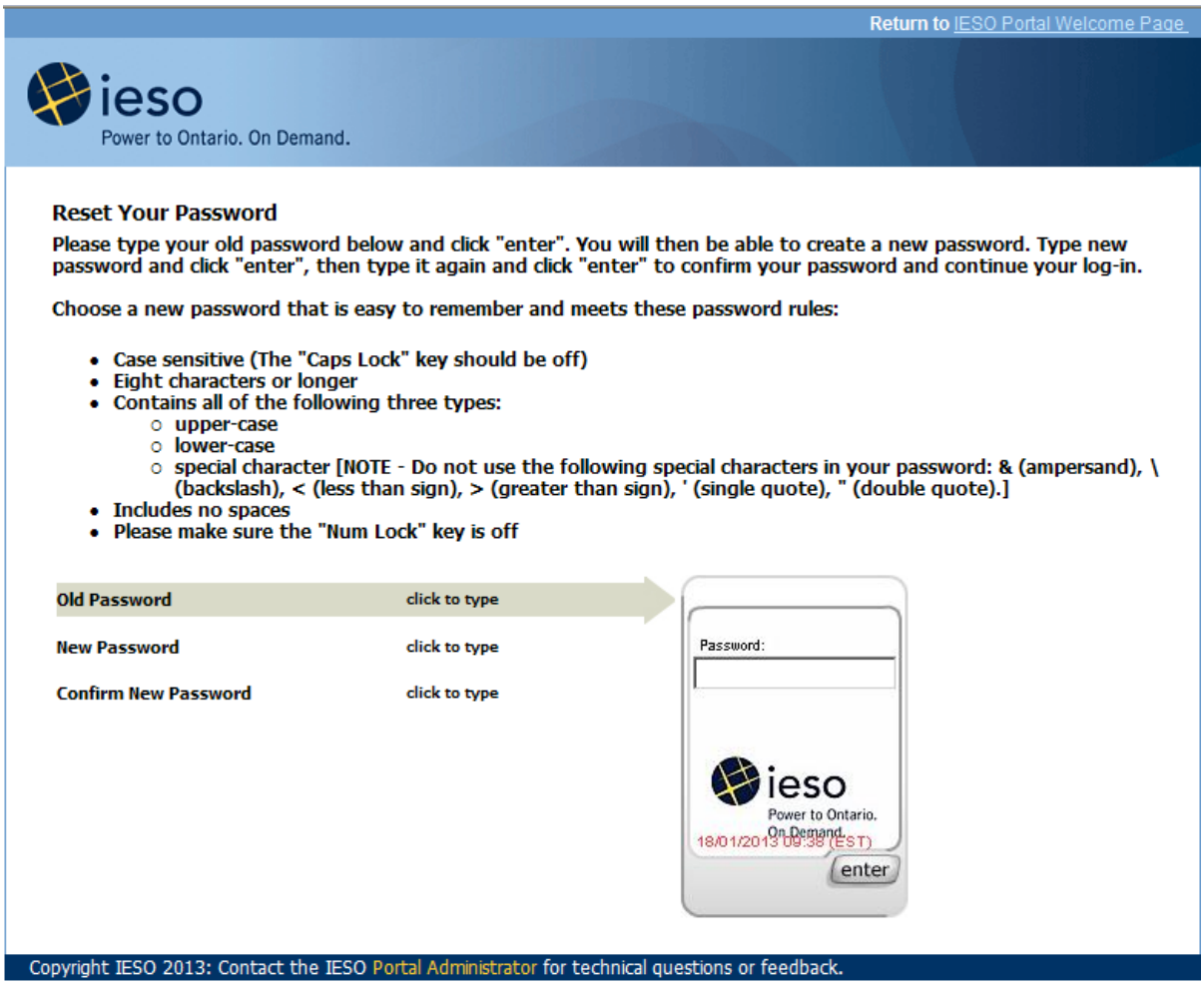


Figure 9-3: Portal / Identity Management Login – Password Reset

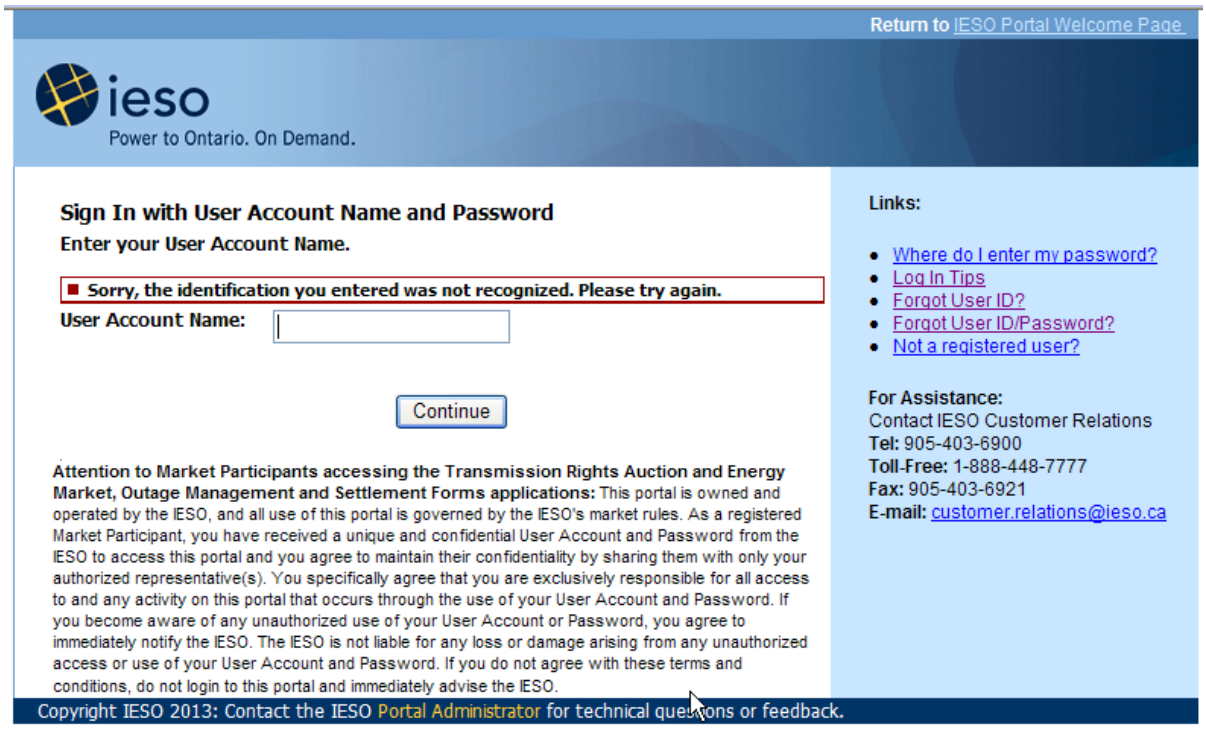


Figure 9-4: Portal / Identity Management Login – User Account Name and/or Password Error Message

4. Once the 'Reset Your Password' page is presented the user must enter in their temporary password (Old Password) again and then their new password and its confirmation as shown in Figure 9-5 and then click on the "Enter" button. The new password must meet the displayed rules and must not have been used in recent history before. If the account is brand new this will not be an issue.

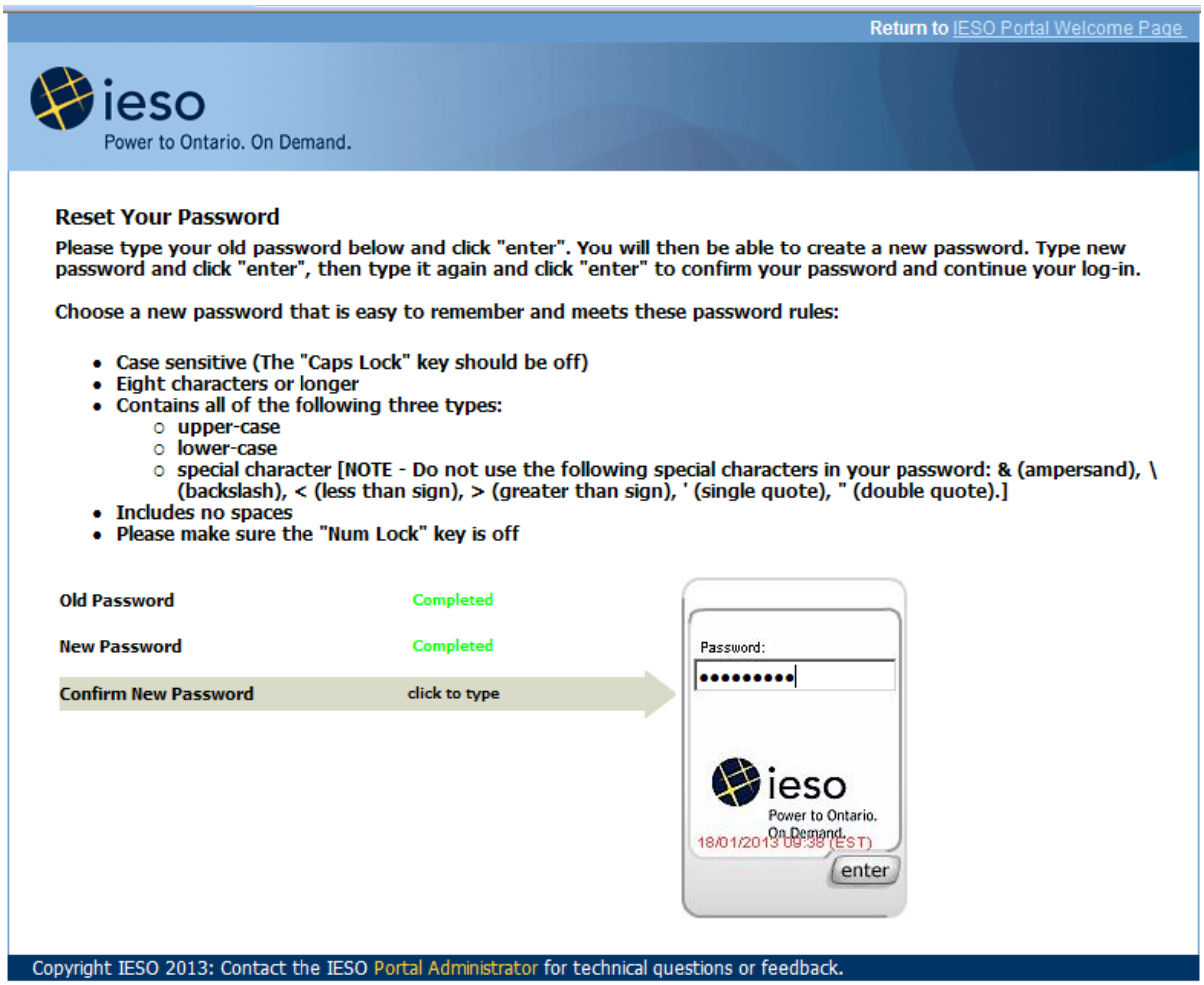


Figure 9-5: Portal / Identity Management Login – Password Reset

5. If the temporary password entered is incorrect, or if the new password entered does not meet the required rules or has been used recently before. If the two new password entries do not match, then an error message will be displayed as shown in Figure 9-6 and the user can try again.
6. However, if the user first enters the current old password incorrectly, she/he will not be shown an error message until the 'old password', 'new password' and 'confirm new password' has been entered and the 'Enter' button has been clicked. The error message as shown in Figure 9-7 will display and the user can start over.

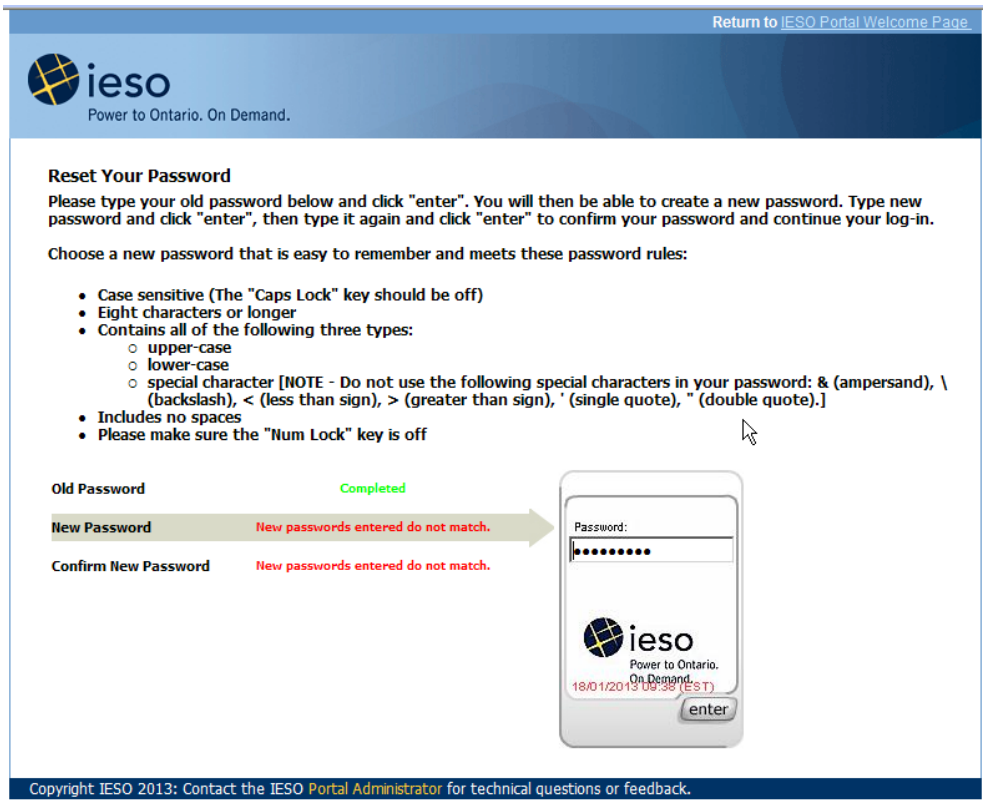


Figure 9-6: Portal Identity Management Login Page – Change Password - Mismatch Error

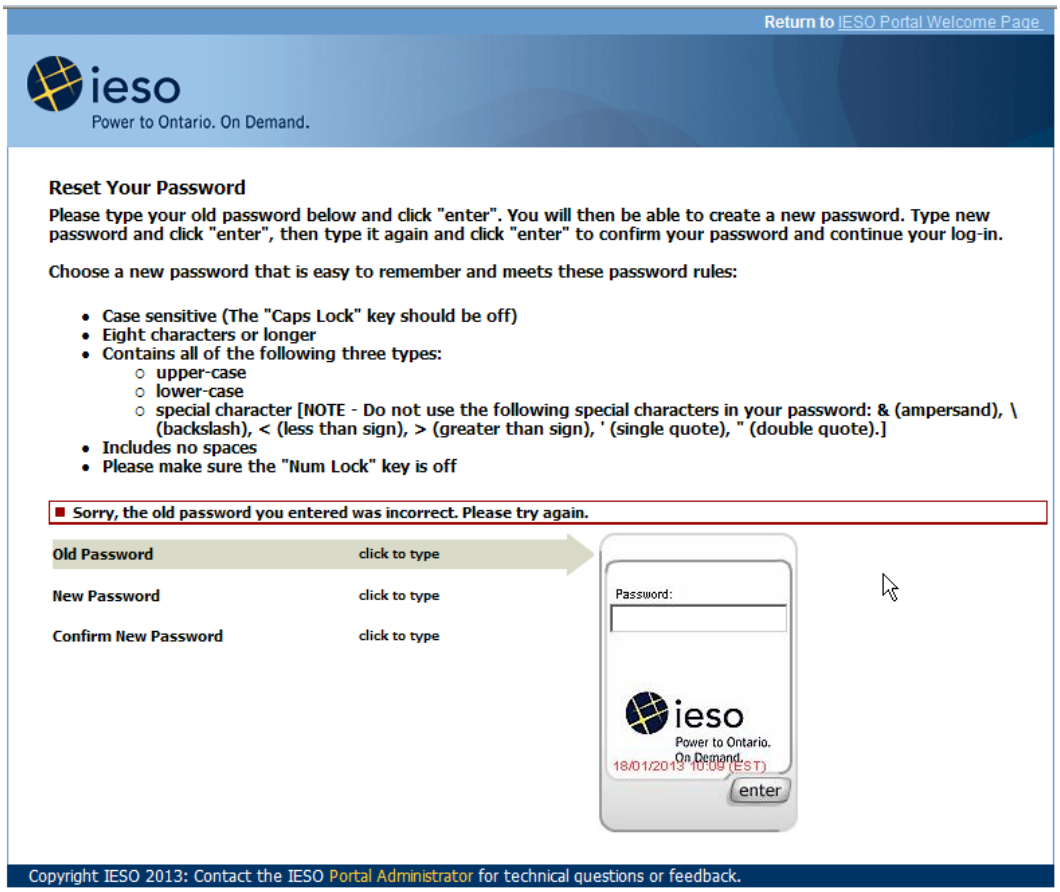
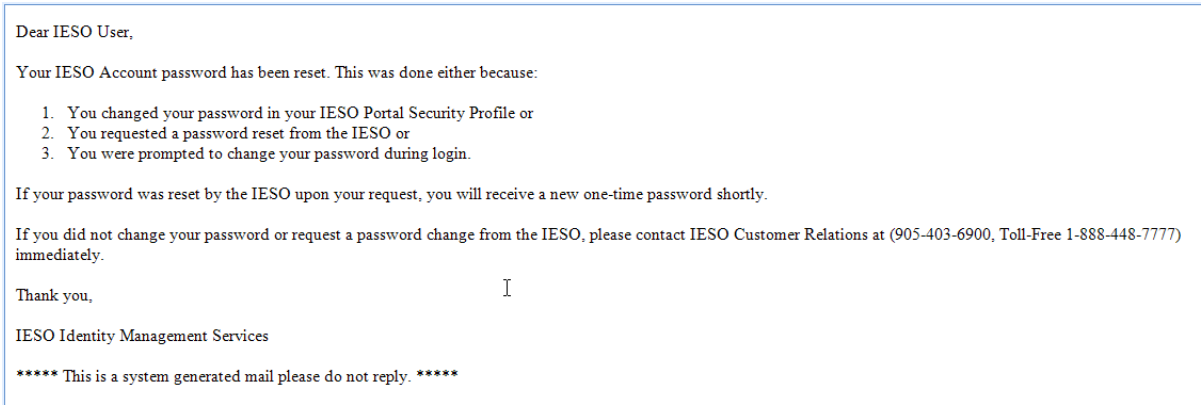


Figure 9-7: Portal Identity Management Login Page – Change Password - Old Password Error

7. Once the user has typed in the valid temporary password and entered in a valid new password and its confirmation, when the "Enter" button is clicked on the password will be changed and the user will be informed of a successful password change by an email notification immediately as shown in Figure 9-8. Note that this email message is also normally sent when an IESO administrator resets the user account password when requested to do so by the authorized user or the register MPRO.

8. If all conditions on the user's workstation are OK, the user should be logged in and then be prompted to set up the new user account 'Security Profile' as shown in Figure 9-9. The user is permitted to skip setting up the security profile once. If they choose to do so, on the next login to the Portal the Security Profile setup is mandatory and the user will be automatically redirected to the pages to do that. If during login there is any issue on the workstation such as another Portal session in the IE browser active etc. the user will likely see a technical error message as shown in Figure 9-10. This can be ignored as a nuisance issue. The user can re-enter the account name and new password and login will proceed. The email notification is the proof that the password has been successfully changed.



Dear IESO User,

Your IESO Account password has been reset. This was done either because:

1. You changed your password in your IESO Portal Security Profile or
2. You requested a password reset from the IESO or
3. You were prompted to change your password during login.

If your password was reset by the IESO upon your request, you will receive a new one-time password shortly.

If you did not change your password or request a password change from the IESO, please contact IESO Customer Relations at (905-403-6900, Toll-Free 1-888-448-7777) immediately.

Thank you,

IESO Identity Management Services

***** This is a system generated mail please do not reply. *****

Figure 9-8: Portal Identity Management – Change Password Notification Email

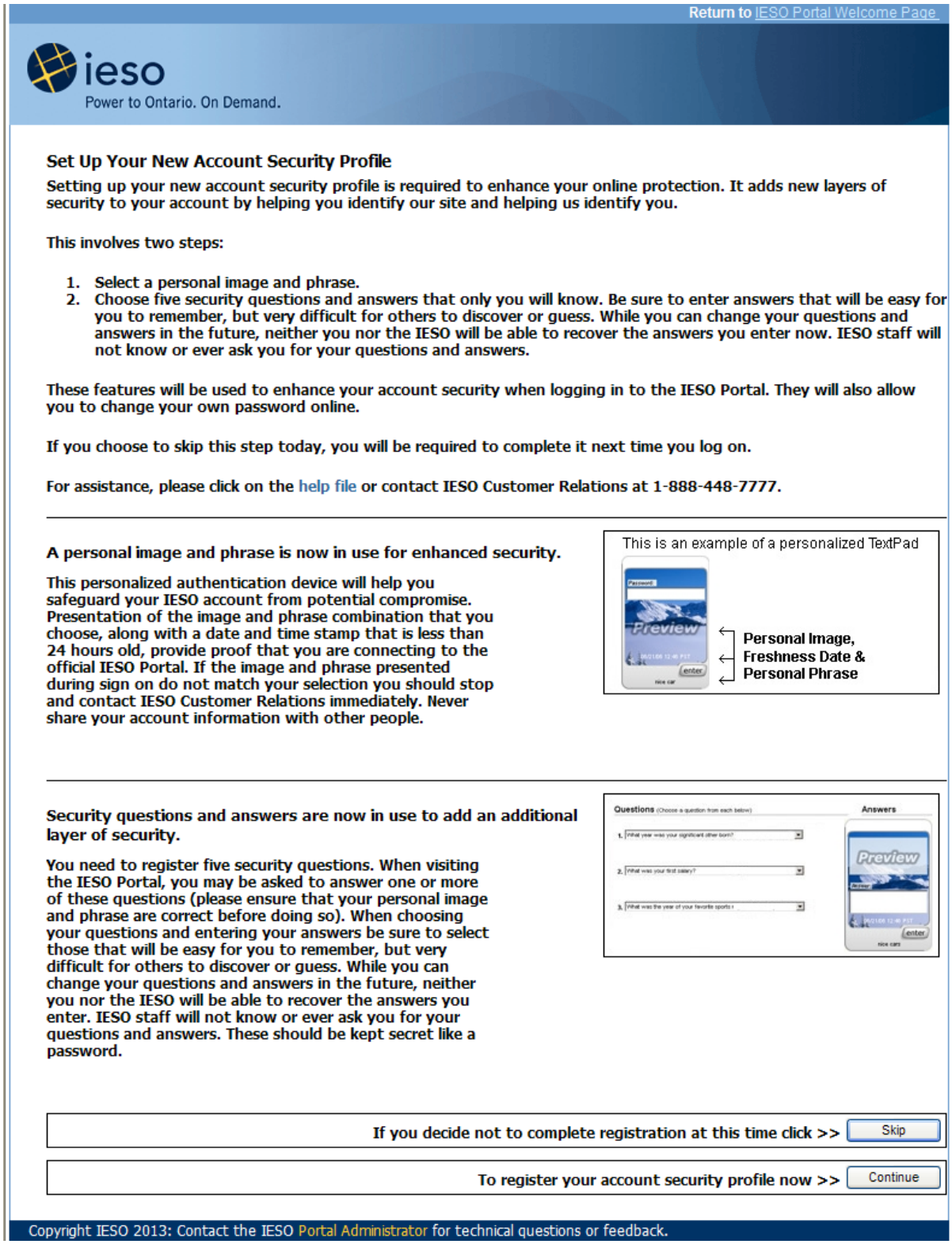


Figure 9-9: Portal Identity Management Login Page – New Account Security Profile

Figure 9-10: Portal Identity Management Login Page – Login Technical Error

9. If the user experiences too many unsuccessful attempts (i.e. 5) at logging in with an incorrect temporary password the user's account will be automatically locked out. If this happens the login page will just keep indicating that the users account credentials are not recognized as shown in Figure 9-4 above. Under such conditions the user can choose to wait until the account is unlocked automatically by the system (1 hour) and attempt again to change the temporary password or contact IESO Customer Relations for assistance. The same is true for an enduring password but with such the user can attempt password self-recovery with the security questions if they have already defined their security questions. If they have not defined their security questions, password self-recovery cannot be done by the user.

10. When the user chooses to register their Security Profile by clicking on the 'Continue' button for such as shown in Figure 9-9 then he/she will be prompted to set up the new user account 'Security Profile' image and phrase as shown in Figure 9-11. The user can click on the Get a new image and phrase as many times as desired until he/she sees a suitable combination. The chosen image and phrase will be 'presented' during subsequent logins to the Portal so that the user has confidence she/he is connecting to the valid IESO Portal. If the user does not see the chosen image /phrase combination, the authenticity of the website is suspect and the user should stop and call the IESO.

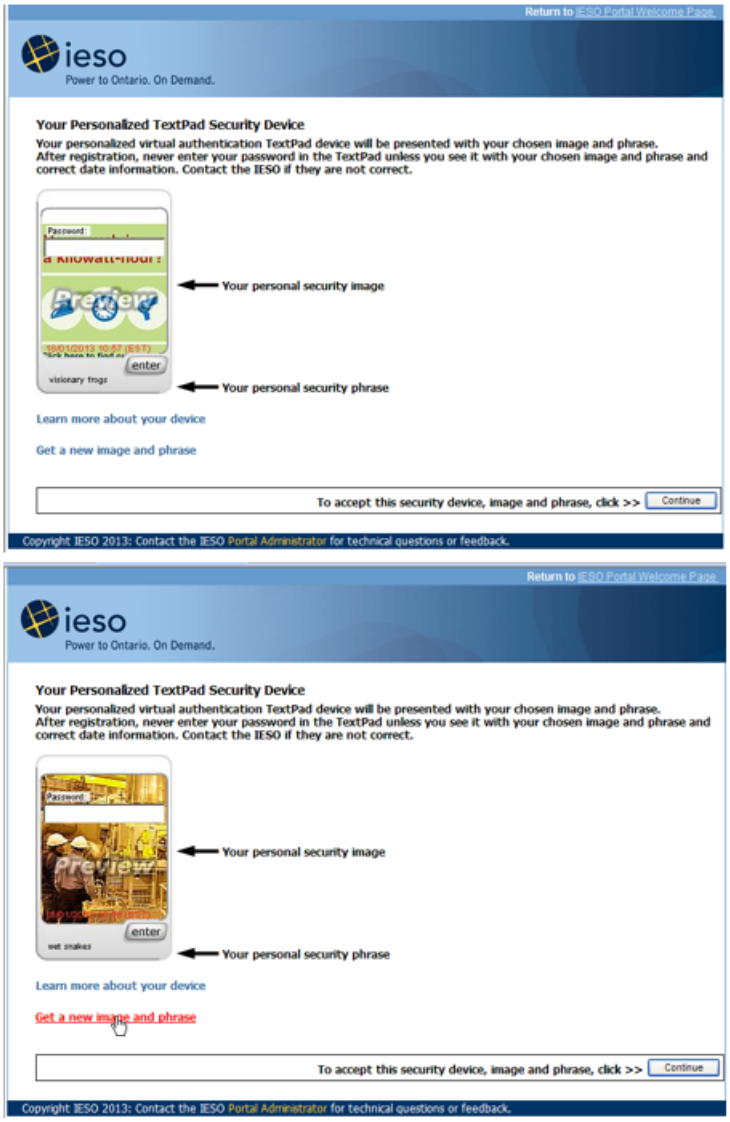
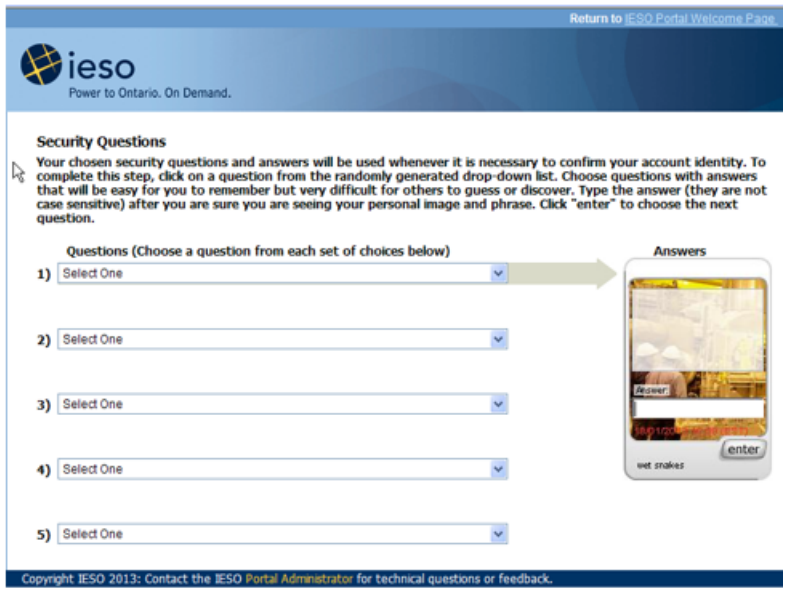


Figure 9-11: Security Profile – Choosing a Security Image and Phrase

11. Once the user is happy with the image and phrase combination the 'Continue' button should be clicked on to save the choice and continue to the selection of security questions and input of answers. The user can then choose each of the 5 question choices and input answers as shown in Figure 9-12. The user should choose questions that he/she can easily remember the answers for consistently without effort. Note that the user's chosen image and phrase is shown on the Security Questions page to validate that the user has not been redirected to some other website.



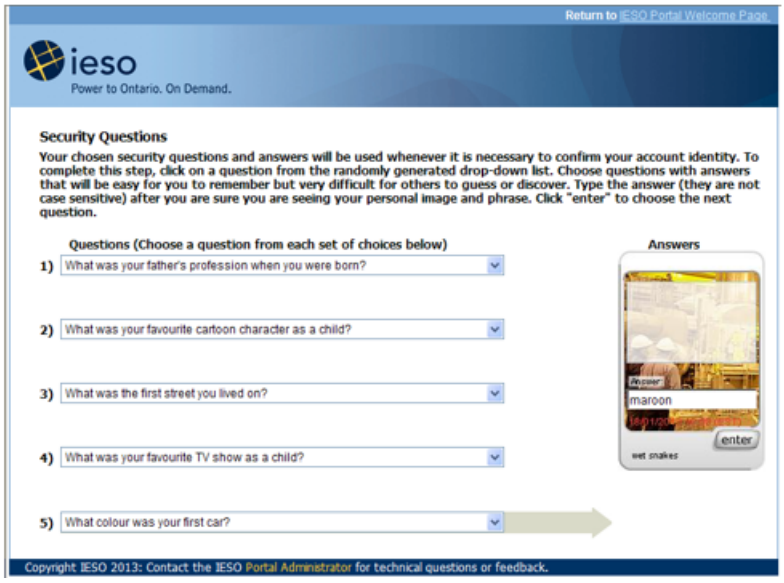


Figure 9-12: Security Profile – Choosing Security Questions and Inputting Answers

9.1.2. Password Self Recovery

1. If the user has forgotten the password but has entered and knows the answers for their security questions chosen for their account, they will be able to create and enter a new password via the Identity Management login pages by selecting the "Forgot your Password?" Link as shown in Figure 9-13 after they have entered the User Name
2. Clicking on the "Forgot your Password?" link will navigate the user to the first page providing the capability to allow the user to reset their password, as displayed in Figure 9-14. The user will be presented with 2 or 3 of their 5 security questions in sequence, to which the correct answers must be provided, in order to be able to

reset the password. The chosen image and phase will be shown at all times on the pages to validate the authenticity of the web pages. If the user remembers the password in the middle of the procedure and stops the password reset and then restarts the browser and then logs in with the remembered password, the system based on the security policy may ask a security question after the correct password has been entered to confirm identity.

Figure 9-13: Portal Identity Management Login Page - Forgot Password Option

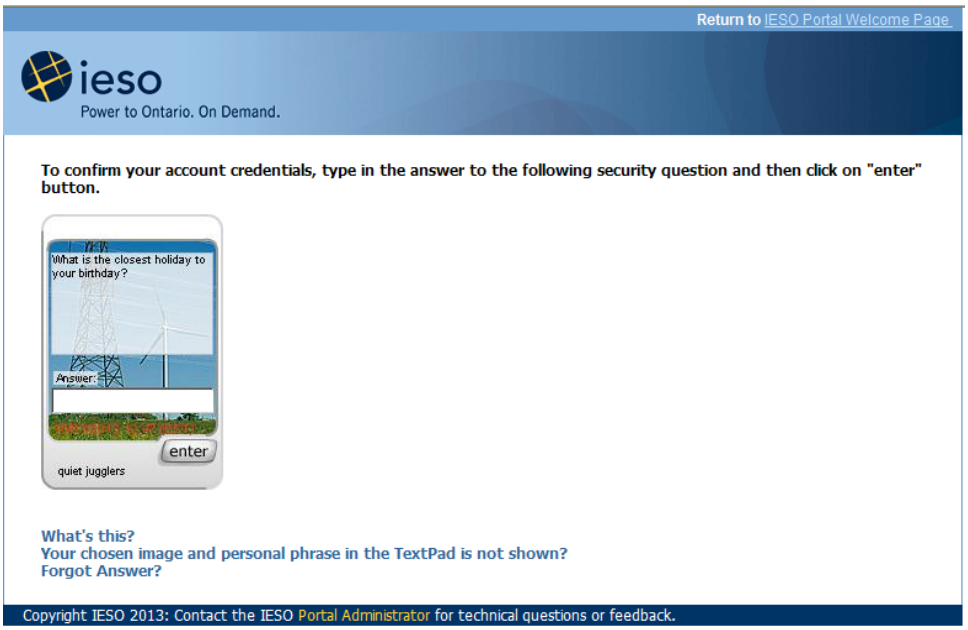


Figure 9-14: User Account Password Reset - Security Question Challenge Example

3. An invalid answer to a security question will result in an error message as shown in Figure 9-15. The correct answer to each question must be input in order to proceed and input a new password. Entry of an incorrect answer repeatedly 5 times will lock the user's security profile and account. If this happens a page will display indicating that the user is not authorized to login and to contact customer service as shown in Figure 9-16. The user should contact IESO Customer Relations and if he/she is able to provide sufficient confirming information regarding their identity, will be provided a new one-time password. The IESO will also reset the security profile back to null so the user, once they login with the new temporary password will have to set up their security profile image, phrase and 5 security questions again as described above.

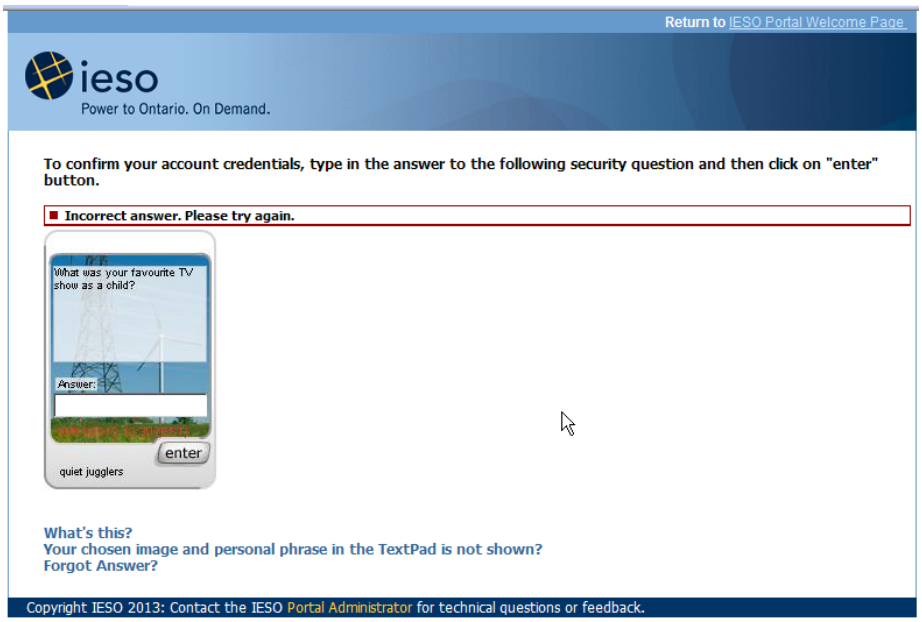


Figure 9-15: User Account Password Reset – Invalid Answer Provided

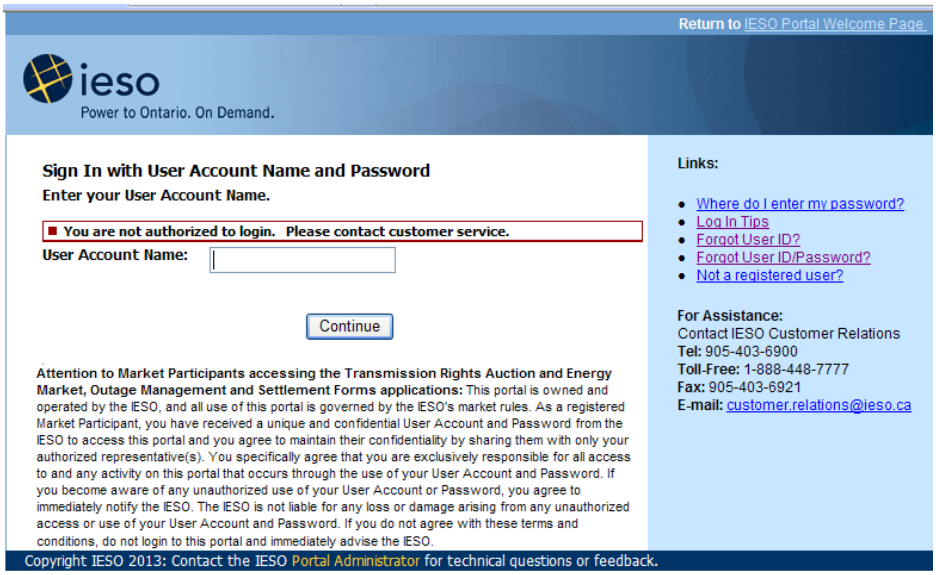


Figure 9-16: User Account Password Reset – Account Locked

4. Once entries of the correct answers to the security question have been input and the "Enter" button is clicked, the next page allowing the user to input their new password will be displayed. This is shown in Figure 9-17. The user must enter in a new password that has not been used very recently before. Note that the system will remember quite a few passwords used previously.

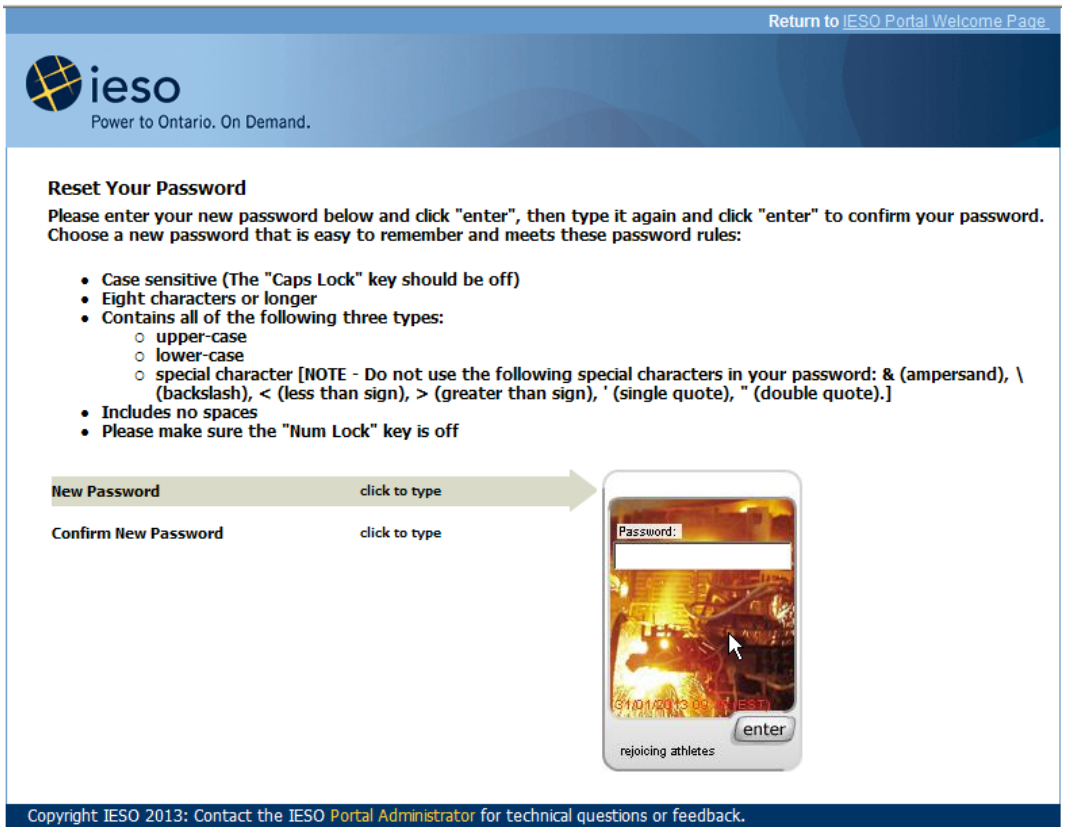


Figure 9-17: User Account Password - Reset Your Password – New Password Entry

5. If the user enters in a password already used in the recent past and is still known by the system password history, or if the password entered does not meet the rules as displayed clicking on the "Next" button will display an error message indicating that a problem was encountered. This is shown in Figure 9-18. The user must enter in a new password that meets all policy conditions.

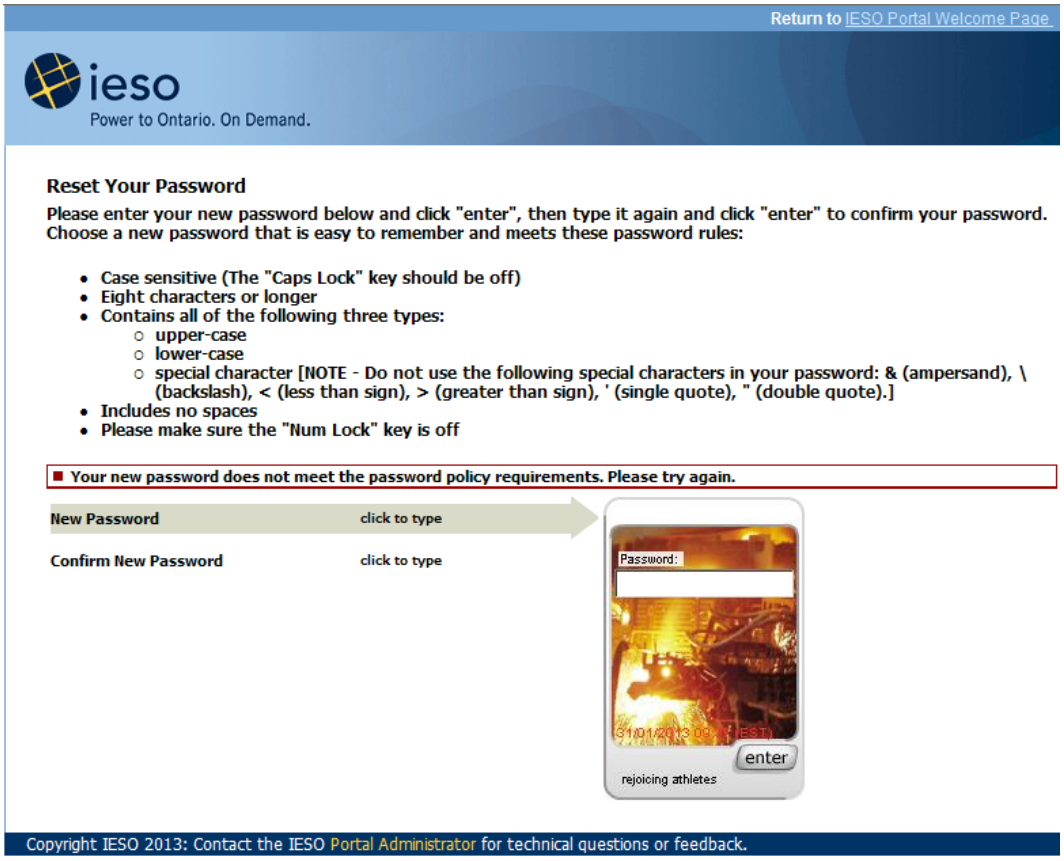


Figure 9-18: User Account Password Reset Step 3 of 4 – Invalid New Password Entry

6. Once a user has entered in a new password that meets all password policy rules and clicked on the next button on the password, the password will be accepted and reset and the user logged into the Portal. The user will also receive an email notification of the password change as shown in Figure 9-8. However, the user may be asked other security questions afterwards as well as dictated by the security policies

7. Upon entering a new password and logging in, if the user sees a screen similar to the one shown in Figure 9-19 (Sandbox Portal example) then the newly created user account created by the IESO has not been automatically activated within the Portal as it should have been. The user should contact IESO Customer Relations to inform them of the problem so that the account can be activated.

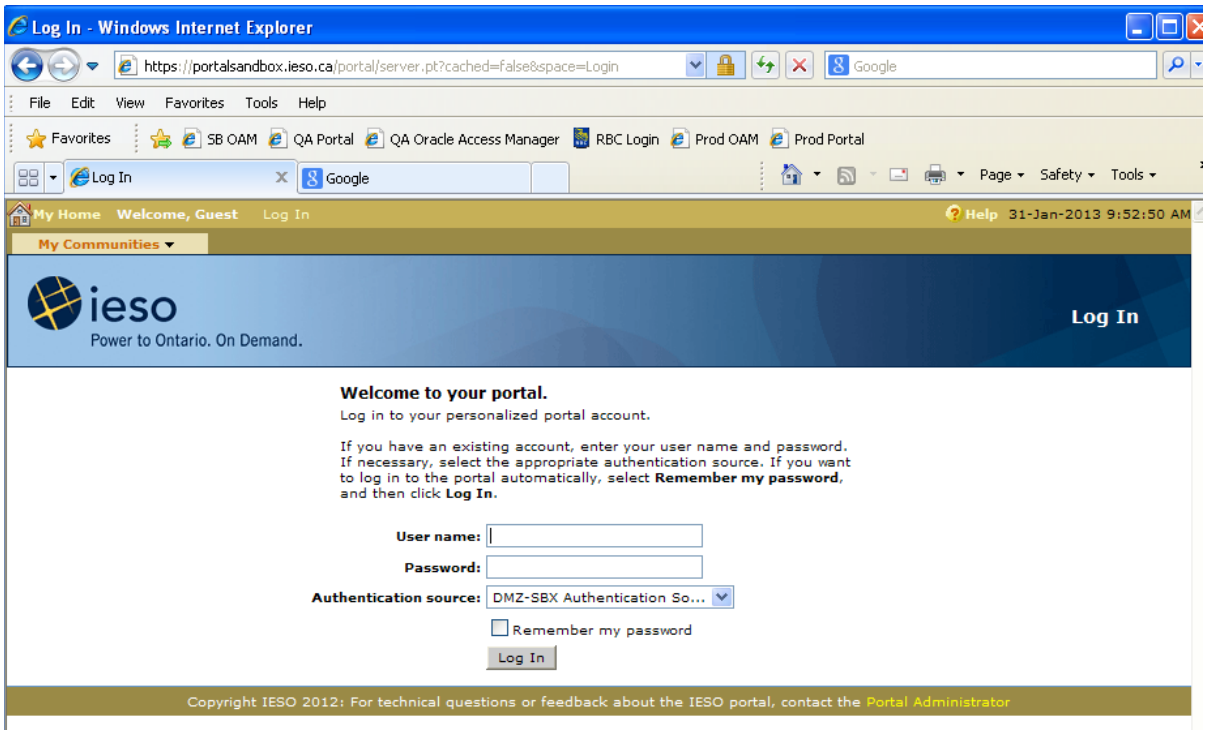


Figure 9-19: User Account Login – Welcome to your Portal Login Page Displayed

9.1.3. Navigating to the User Security Profile Page

In order to normally change the User Account security image/phrase, password or change the security questions and answers defined on initial login, the user must navigate to their security profile page. This can be done after login by clicking on the "Check your Portal Security Profile' page tab as shown in Figure 9-20. This is a Sandbox Portal example; the Production environment is similar.

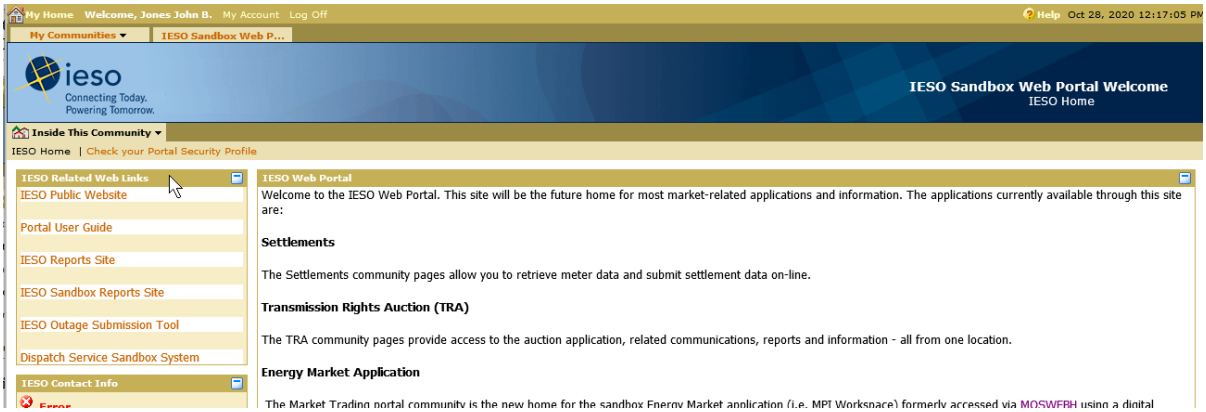


Figure 9-20: Typical Portal Home Page with Security Profile Tab

1. This will activate the security profile page which will display the IESO Security Profile portlet shown in Figure 9-21 which is linked to the Identity Management system's security profile page. The user can, via the security profile page:
   i. Get a new security image and phrase – *'Get a new image and phrase'*
   ii. Reset the security questions and answers – *'Reset your questions and answers'*
   iii. Change the user account password – *'Change your password'*

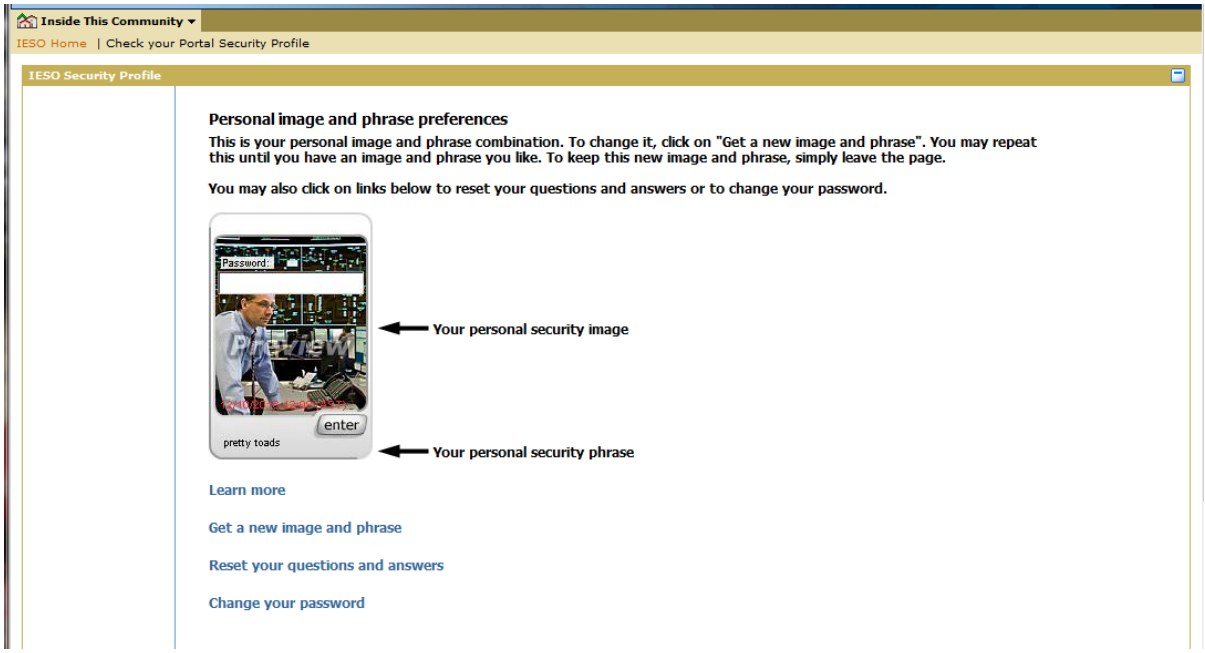


Figure 9-21: Portal Security Profile Page - Personal Image and Phrase Preferences

2. 'Get a new image and phrase' will refresh the page shown in Figure 9-21 with a new image and phrase. The user can continue to click on the 'Get a new image and phrase' link to update the combination until one that is suitable is presented.
3. 'Reset your questions and answers' will refresh the page shown in Figure 9-22 with one for selecting new Security Questions and entering new answers. The user must select five questions from the presented dropdown selection list and enter the answer for each. If the user stops selecting new questions and entering answers before the fifth and final one the selections will not be saved. Only when the fifth question and answer is entered are all five of the questions and answers saved.
4. 'Change your password' will refresh the page shown in Figure 9-23 with the fields shown for entering the old and new passwords. The user must complete all fields and click on the "Enter" button for each before the new password is committed to the system.

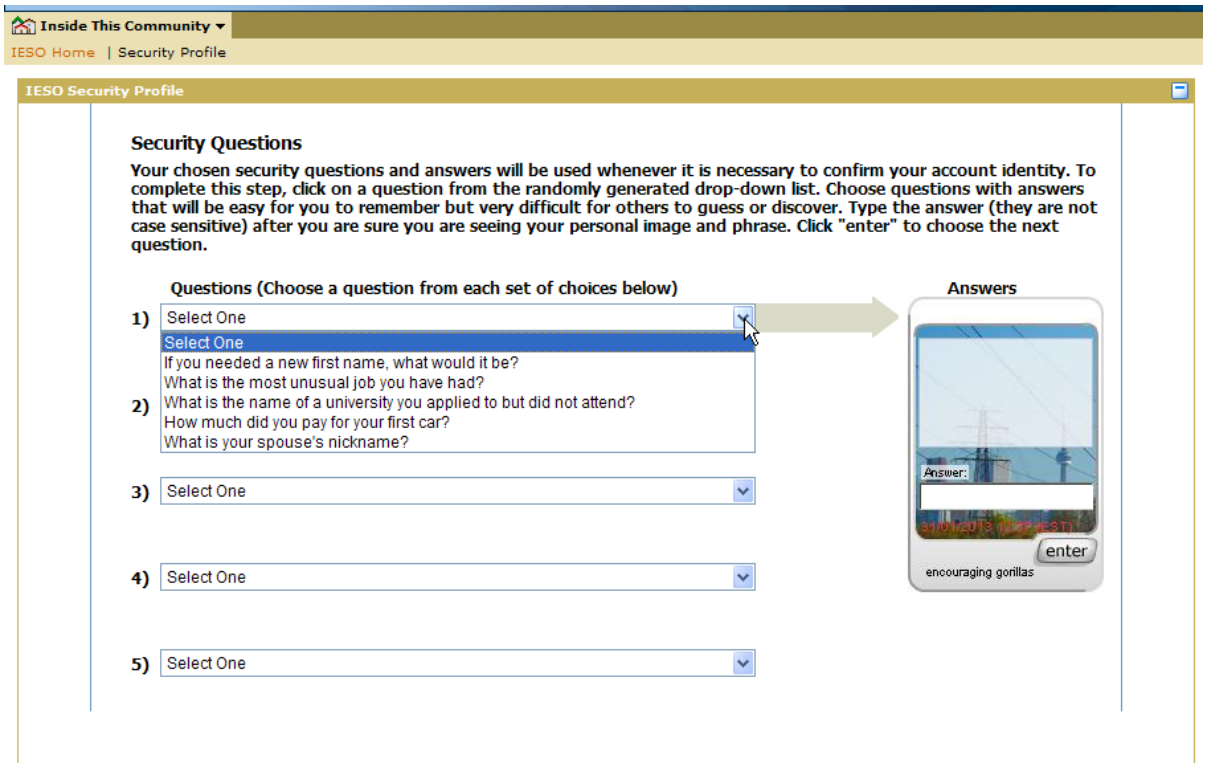


Figure 9-22: Portal Security Profile Page – Security Questions

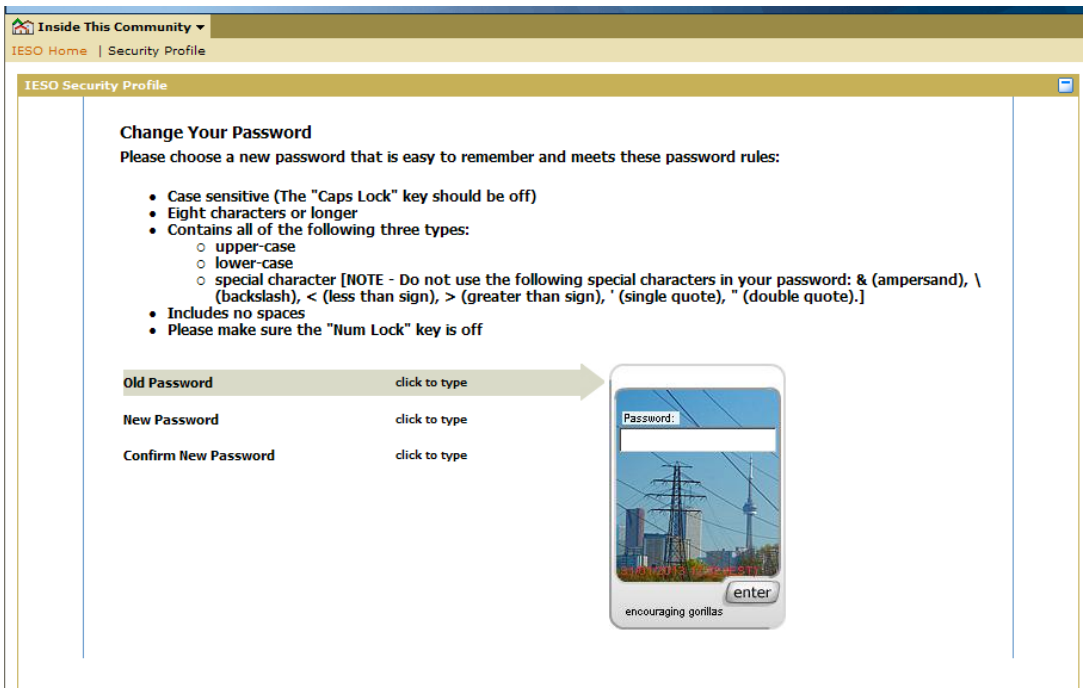


Figure 9-23: Portal Security Profile Page – Change Your Password

- End of Section -

10. Browser Use

10.1. Browser Versions

Please refer to the supported client platform page on the IESO corporate website for browser makes and versions.

See supported client platforms on the corporate website at this address

10.2. Java 2 Runtime Environment for the Portal with Internet Explorer 11

There is no longer any need for a Java 2 Runtime Environment on a client workstation for use with the Portal with Internet Explorer 11 or any other browser.

A number of years ago Oracle took possession of Java with its acquisition of Sun Micro Systems. Almost immediately the java security model was impacted. All java applets became governed by the content of the java security policy files on the users' workstations. At first this was not an issue as the java policy file needed was located in each user's home directory on the C drive of the workstation. It was relatively easy for the IESO to create a standard java security policy file and publish it and have the end users of the MPI application and Portal, both of which used java applets for uploading files to the respective servers, download and install the file in their own home user directory.

More recently Oracle changed their java security model such that only the java policy file located in the java (JRE) install location on the users' workstations is recognized. Multiple file upload functionality within the Portal collaboration communities ceased to work. The IESO was able to resurrect the functionality by determining what the content of the java install security policy file needed to be and have MPs and internal users download and instruct their respective IT departments to update the file. This however was administratively intensive as market participant IT support personnel had to look after maintaining the java policy file on end user workstations.

However, with the latest versions of JRE updates the Portal multiple file upload applet ceased to function again. The IESO decided to look for an upgrade for multiple file functionality and found a solution.

A JavaScript based multiple file upload functionality was found by a product called "FineUploader". A consultant to other companies using the same portal software found a way to use this product to upgrade the portal software to enable multiple file upload functionality without the need for a java runtime environment on client workstations. The solution can be leveraged by any application for multiple file uploading and this is what the IESO did for the Portal collaboration application. Within the collaboration application a few

files were updated and the needed "FineUploader" files were added. The updated collaboration application was used to replace the existing one on the Portal server where it resides.

To the end user there is only a superficial look and feel change in how multiple file upload functionality works in the Portal. The same popup window is activated, navigation and searching for files to upload works exactly the same as before but drag and drop of files onto the upload window functionality is now available. Files are added to a list in the window in the order chosen not alphabetically. Clicking on the Upload button triggers the upload to proceed the same as before.

Thermometer bar progress of files being uploaded is displayed and success file uploads are highlighted in green when complete. Upload failure of any file is highlighted in magenta. Typically any attempt to upload files with the listed metacharacters (`\ / : * ? " < > | #.","`) will result in a generic error such as: "Error on file number # - filename: Reason upload failure reason unknown". Correcting the name of the file will allow it to be uploaded. There is a hard coded 1 GB file size limit

– End of Section –

11. MIM Application Web Services

11.1. Introduction

The Market Information Management (MIM) system is one of the Web systems that allow the *participant* to interface with the *IESO*. Specifically, the MIM represents the secure internet-based client gateway to functionality provided by the *IESO* energy bidding system.

The *market participants* can interact with the MIM using the following two methods:

- Internet Explorer browser to access the Energy Market Interface (EMI) web server. The browser is GUI based and interprets tag languages such as HTML. It allows client interaction through the keyboard/mouse; and
- The MIM Application Interface (Web Services) package. It allows Clients programmatic access to the MIM functionality via Web Services.

11.2. Downloading the MIM Web Services Files

Go to the Web site Technical Interface Page at this address using your Internet Explorer Browser.

1. Choose and click on the "Market Participant Submissions (incl. MIM, EMI & API)" Link.
2. Scroll down to find the MIM Web Services listing as shown in Figure 11-1.

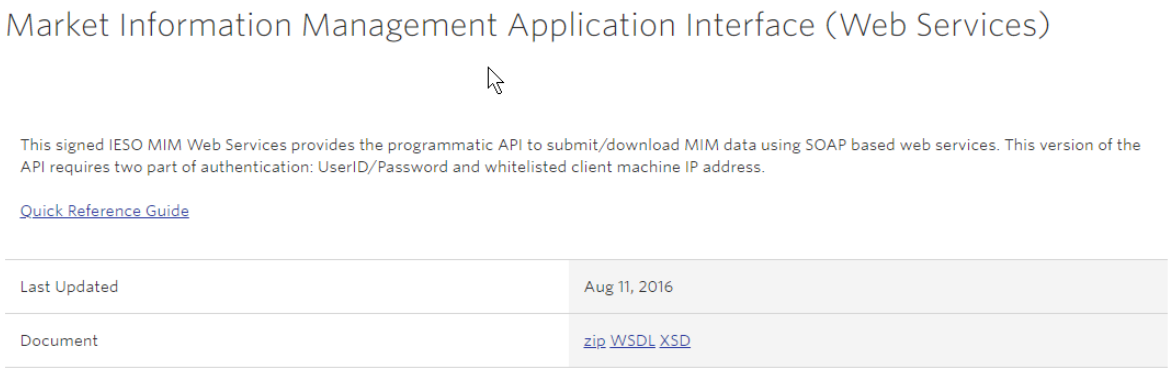


Figure 11-1: Market Information Management Application Interface (Web Services) Download

3. Click on the Web Services download link – ZIP as required.
4. Click on Save File when the prompt screen appears.
5. Using the save as option, choose a directory (ex: C:\Temp) to download the file (e.g.: MIM_WebService_Toolkit.zip) to.

6. Click on the Save button.
7. Wait for the download to complete.

Once downloaded, the zip file can be extracted to a directory of the developer's choice. The Web Services Toolkit documentation is in the form of Word Document - MIM Web Service Toolkit (MWT) Guide.docx, which is located in the zip file.

– End of Section –

Appendix A: Account Management Procedural Steps

This section contains detail on the tasks (steps) that comprise the Identity Management procedures. The steps in the following tables are illustrated in Section 4 above.

The table contains 3 columns, as follows:

Ref.

The numerical reference to the task.

Task Name

The task name as identified in Section 2 above.

Task detail

Detail about the task.

Participant Account Application Scenario

A *participant* employee or contractor applies for a user account (personal or machine on Sandbox or Production) and system access roles / permissions via the *participant* Rights Administrator.

The steps in the following table are illustrated in the flow diagram entitled Participant User Account Application Scenario.

Table A-1: Participant User Account Application Scenario Task Details

Ref.	Task Name	Task Detail
A.01	Obtain Internal Approval and communicate system access requirement to Rights Administrator	A Credential Subscriber obtains internal *participant* approval as per the *participant's* processes and communicates as required to a Rights Administrator within the *participant,* the IESO system access requirements (Sandbox and/or Production environment). The Credential Subscriber should communicate to the Rights Administrator what access permissions they are internally approved for.
A.02	Submit request for User Account and Contact role and/or	The Rights Administrator (or applicant representative) logs in to the Sandbox and/or Production Online IESO Registration system(s) and performs the grant access / contact role(s)

Ref.	Task Name	Task Detail
	System access permissions via Online IESO Registration System	process as described in Section 8 of this document for the Credential Subscriber for a new registered person and the associated personal or machine account.
A.03	Receive Grant/ Revoke access ticket task from online Registration system. Validate grant/revoke information. Create User Account and assign to requested access roles.	ITOPS Customer Support receives a Grant/ Revoke access ticket task from online Registration system. They will validate the request to ensure the account does not already exist (i.e. conflict with another person's personal or machine account). They will then create a user account for the Credential Subscriber and enroll the account in the requested access roles. ITOPS does not need to enroll the account in any contact roles as this is completed in IESO Online. When the ticket has been closed the system will issue an email to the Credential Subscriber with the User Account Name to be used.
A.04	Provide User Account Name's temporary Password to Credential Subscriber.	ITOPS Customer Support will provide the User Account Name's temporary Password to Credential Subscriber via a phone call to the registered main phone number for the person.
A.05	Receive User Account Name and temporary Password. Reset password on first login where applicable	The Credential Subscriber will receive the User Account Name's temporary Password via a phone call from ITOPS Customer Support and proceed to the initialization process to update to login to the IESO Portal, update the temporary password to one of their own choosing and set the account's security questions as per section 9 in this document

Participant Account Change Scenario 1

Requesting a change to *participant* Individual Subscriber's or Application Subscriber's Information (Sandbox or Production) where:

- The requested change impacts system access roles for Individual or Application Subscriber's User Account (grant or revoke)

The steps in the following table are illustrated in the flow diagram entitled Participant User Account Change Scenario 1.

Table A-2: Account Change Scenario 1 Task Details

Ref.	Task Name	Task Detail
B.01	Obtain Internal Approval and communicate system access requirement to Rights Administrator	A Credential Subscriber obtains internal *participant* approval as per the *participant's* processes and communicates as required to a Rights Administrator within the *participant* the IESO system access requirements (Sandbox and/or Production environment). The Credential Subscriber should communicate to the Rights Administrator the existing user account information, Person ID and what access permissions are internally approved for granting or revoking.
B.02	Submit request for change to a user account's access / Contact roles / system access permissions via online Registration System	The Rights Administrator (or applicant representative) submits a grant or revoke request for changes to a user account's access / Contact roles / system access permissions (personal or machine account) via IESO Online Registration System as per Section 8 of this document. Participation contact role changes made take effect immediately.
B.03	Receive Grant/ Revoke access ticket task from IESO Online Registration system. Validate grant/revoke information.	ITOPS Customer Support receives a Grant/ Revoke access ticket task from the IESO Online Registration system. They will validate the request to ensure the account does exist and its current 'access role' permissions.
B.04	Arrange for updating Credential Subscriber of system access permissions for requested user	ITOPS Customer Support will arrange for updating Credential Subscriber system access permissions for the requested user account to 'access roles' assignment within the IESO. When complete they will notify the Subscriber where applicable.

Ref.	Task Name	Task Detail
	account to access roles assignment. Notify Subscriber	
B.05	Receive confirmation of changes.	The Credential Subscriber will receive confirmation of the access role changes from the IESO where applicable and feasible.

Participant User Account Change Scenario 2

Requesting a change to *participant* Individual Subscriber's or Application Subscriber's Information (Sandbox or Production) where:

- The requested change is a Significant Change that impacts credential attributes for the person's User Account such as name, machine account custodian change, email address, phone number

The steps in the following table are illustrated in the flow diagram entitled Participant Account Change Scenario 2.

Table A-3: Participant User Account Change Scenario 2 Task Details

Ref.	Task Name	Task Detail
C.01	Update the person record in the IESO Online Registration System where applicable and then confirm the changes in the system	An Individual or Application Subscriber ("machine account Custodian") updates their person record in the online Registration System where applicable and commits the changes to the IESO system. This will automatically generate a change person ticket to IESO ITOPS Customer Support to make the required changes to the associated user account(s) for the person.
C.02	Receive Person change ticket task from IESO Online Registration system. Validate user account attribute change information.	IESO ITOPS Customer Support will receive the Person change ticket task from IESO Online Registration system. They will validate the user account attribute change to make sure it is complete and does not conflict with any existing active account(s).
C.03	Arrange for modified credentials (Name, User Account Name, email address, phone no.)	IESO ITOPS Customer Support will make or arrange for the modifications credentials (person name, User Account Name, email address, phone no.) and notify the Subscriber of the implemented changes where required.

Ref.	Task Name	Task Detail
	Notify Subscriber of implemented changes.	
C.04	Receive change notification	The Credential Subscriber receives the account change information notification from ITOPS Customer Support where feasible and applicable.

Participant User Account Deactivation Scenario

A *participant* Rights Administrator requests a User Account deactivation (Sandbox or Production) for a *participant* Individual or Application Subscriber where applicable.

The steps in the following table are illustrated in the flow diagram entitled Participant User Account Deactivation Scenario.

Table A-4: Participant User Account Deactivation Scenario Task Details

Ref.	Task Name	Task Detail
D.01	Communicate removal of systems access permissions and desired account deactivation with Rights Administrator	A Credential Subscriber (or Primary Contact in cases where person has left *participant*) communicates the need for removal of the person's systems access permissions and desired account deactivation with Rights Administrator.
D.02	Remove selected person's access / Contact role(s) for selected organization and where applicable request account deactivation via IESO Online Registration System	The Rights Administrator (or applicant representative) submits a revoke access role(s) request for all of the selected person's access role(s) for the chosen organization and where applicable request account deactivation via the IESO Online Registration System. Participation contact role changes made, take effect immediately via the IESO Online Registration System.
D.03	Receive Grant/ Revoke change ticket task from IESO Online Registration system. Validate grant/revoke information.	*IESO* ITOPS Customer Support receives a Grant/ Revoke change ticket task from IESO Online Registration system and validates that the grant/revoke information is for an existing account(s)

Ref.	Task Name	Task Detail
D.04	Arrange for disabling of systems access privileges and deactivation of User Account where applicable. Notify Rights Administrator of disabling of systems access for User Account(s) and deactivation of user account(s) where no longer required.	*IESO* ITOPS Customer Support will arrange for disabling of the targeted person's User Account(s) systems access roles / privileges and deactivation of the User Account(s) where applicable. *IESO* ITOPS Customer Support will notify the Rights Administrator of the disabling of the User Account(s) systems access roles / privileges for the *participant* and deactivation of user account where no longer required where applicable.
D.05	Receive notification of removal of User Account's participant systems access and deactivation of account where no longer required.	The Rights Administrator will receive notification of removal of User Account's *participant* systems access and deactivation of account where no longer required where feasible and applicable.

Participant User Account Recovery Scenario 1

A *participant* Individual Subscriber or Application Subscriber performs an online recovery of their identity credential (Sandbox or Production) or requests the recovery of their identity credential via *IESO* Customer Relations.

The steps in the following table are illustrated in the flow diagram entitled Participant User Account Recovery Scenario 1.

Table A-5: Participant User Account Recovery Scenario 1 Task Details

Ref.	Task Name	Task Detail
E.01	Use provisioning tools if existing to recover credentials or replace forgotten identity credentials password using user defined security questions and answers. Else communicate need to recover account password with *IESO* Customer Relations	An Individual Subscriber or Application Subscriber attempts to self-recover their User Account password where possible with the *IESO* provided on-line provisioning tools where existing or can call *IESO* Customer Relations for support where self-recovery functionality is not available for some accounts or where self-recovery is unsuccessful. In the case where password self-recovery works the process ends.
E.02	Receive and validate request to recover account password.	*IESO* Customer Relations will receive and validate the request to recover an account password.
E.03	Arrange for recovery of User Account password, Where	*IESO* Customer Relations will either reset the Credential Subscriber's password where possible or arrange for recovery of User Account password, and where applicable, provide a new temporary password to Credential Subscriber and/or

Ref.	Task Name	Task Detail
	applicable, provide new temporary password to Credential Subscriber and/or arrange for unlocking of account where required or provide replacement password to subscriber.	arrange for unlocking of account where required or provide the replacement password to the subscriber.
E.04	Receive new temporary password for User Account or replacement password for applications that do not support one time password.	The Credential Subscriber will receive new temporary password for User Account or replacement password for applications that do not support one time password from *IESO* Customer Relations or *IESO* ITOPS Customer Support.

Participant User Account Recovery Scenario 2

An existing Rights Administrator performs an online recovery of their identity credential (Sandbox or Production) or requests the recovery of their identity credential via *IESO* Customer Relations:

The steps in the following table are illustrated in the flow diagram entitled Participant User Account Recovery Scenario 2.

Table A-6: Account Recovery Scenario 2 Task Details

Ref.	Task Name	Task Detail
F.01	Use online provisioning tools if existing to recover credentials or replace forgotten identity credentials password using user defined security questions and answers. Else communicate need to recover account password with IESO Customer Relations.	A Rights Administrator will use the online provisioning tools if existing to recover credentials or replace forgotten identity credentials password using user defined security questions and answers. If this fails, the Rights Administrator can communicate the need to recover their account password with *IESO* Customer Relations. In the case where password self-recovery works the process ends.
F.02	Receive and validate request to recover Rights Administrator account password.	*IESO* Customer Relations will receive and validate the request to recover Rights Administrator account password.
F.03	Arrange for recovery of User Account password, Provide new temporary password to	*IESO* Customer Relations will either reset the Rights Administrator's password where possible or will arrange for recovery of User Account password and provide a new temporary password to Rights Administrator and/or arrange for unlocking of account where required.

Ref.	Task Name	Task Detail
	Rights Administrator and/or arrange for unlocking of account where required.	
F.04	Receive new temporary password for User Account or replacement password for applications that do not support one time password.	The Rights Administrator will receive new temporary password for User Account or replacement password for applications that do not support one-time password from *IESO* Customer Relations or *IESO* ITOPS Customer Support.

29.

Participant Rights Administrator Enrolment Scenario

A *participant* Primary Contact is requesting enrolment of a Rights Administrator in either Sandbox and/or Production environments.

The steps in the following table are illustrated in the flow diagram entitled Participant Rights Administrator Enrolment Scenario.

Table A-7: Rights Administrator Enrolment Scenario Task Details

Ref.	Task Name	Task Detail
G.01	Complete selected person's Rights Administrator role assignment for selected organization and create user account request via Online IESO Registration System where applicable.	The Primary Contact at a *participant* completes the selected person's Rights Administrator role assignment for the selected organization in Sandbox and/or Production and in the process creates a user account request via the Online IESO Registration System (Sandbox and/or Production) where applicable. If the person already has an *IESO* user account (Sandbox and/or Production) the process is complete. If the person enrolled in the Rights Administrator for the *participant* does not have an *IESO* User Account the Registration System will generate a grant/revoke request to *IESO* ITOPS Customer Support to create the account.
G.02	Receive Grant/ Revoke access ticket task from Online IESO Registration system. Validate grant/revoke information. Create User Account and assign to Online IESO Registration System access	*IESO* ITOPS Customer Support will receive a Grant/ Revoke access ticket task from online Registration system. They will validate grant/revoke information to ensure there is no conflict with existing user accounts. *IESO* ITOPS Customer Support will then create the User Account and assign it to the Online IESO Registration System access role for external users. When *IESO* ITOPS Customer Support sets the User Account name, the Online IESO Registration System will email the Rights Administrator with the User Account Name.

28.

Ref.	Task Name	Task Detail
	role for external users.	
G.03	Forward User Account Name / temporary password. Confirm User Account name and password with Rights Administrator	*IESO* ITOPS Customer Support will forward the User Account Name's temporary password to the Rights Administrator and confirm the User Account name and password with the Rights Administrator.
G.04	Receive User Account Name and temporary password from IESO ITOPS Customer Support	The Rights Administrator will receive the User Account Name via email and the temporary password from *IESO* ITOPS Customer Support by phone call. He or she can then proceed to initialization of the account by navigating in a browser to the *IESO* Portal and logging in with the account (Sandbox and/or Production) See scenario A-12

29.

Participant Rights Administrator User Account Change Scenario 1

An existing Rights Administrator is requesting a change to their information where:

- The requested change is a Significant Change that impacts credential attributes for the person's account such as name, machine account custodian change, email address, phone number

The steps in the following table are illustrated in the flow diagram entitled Participant Rights Administrator Account Change Scenario 1.

Table A-8: Rights Administrator Change Scenario 1 Task Details

Ref.	Task Name	Task Detail
H.01	Update own person record in the Online IESO Registration system where applicable and in the process communicates the need to update their User Account information to *IESO* ITOPS Customer Support.	The Rights Administrator Updates their person record in the Online IESO Registration system (Sandbox and Production) where applicable and in the process the Online IESO Registration System communicates the need to update their User Account information to *IESO* ITOPS Customer Support by automatically issuing a grant/revoke person change ticket.
H.02	Receive Grant/ Revoke person change ticket task from Online IESO Registration system. Validate Rights Administrator change information.	*IESO* ITOPS Customer Support will receive a Grant/ Revoke person change ticket task from the Online IESO Registration system. They will validate Rights Administrator user account attribute change information to make sure it is complete and does not conflict with any existing active account(s).

28.

Ref.	Task Name	Task Detail
H.03	Arrange for modified credentials (Name, User Account Name, email address, phone no.) Notify Rights Administrator of implemented changes.	*IESO* ITOPS Customer Support arranges for modified credentials (Name, User Account Name, email address, phone no.) and then notify the Rights Administrator of implemented changes where possible.
H.04	Receive change notification of credential updates.	The *participant* Rights Administrator will receive a change notification of his or her credential updates from *IESO* ITOPS Customer Support where possible.

29.

Participant Rights Administrator User Account Change Scenario 2

An existing Rights Administrator is requesting a change to system access permission changes (Sandbox and/or Production) for themselves or another Rights Administrator.

The steps in the following table are illustrated in the flow diagram entitled Participant Rights Administrator Account Change Scenario 2.

Table A-9: Participant Rights Administrator Account Change Scenario 2 Task Details

Ref.	Task Name	Task Detail
I.01	Obtain Internal Participant approval for system access permission change.	The Rights Administrator obtains internal *participant* approval for system access permission change (Sandbox and/or Production).
I.02	Submit request for change to own or other Rights Administrator's (for same Participant) user account's access /Contact roles / system access permissions via Online IESO Registration System	A Rights Administrator submits a request for change to his or her own or another Rights Administrator's (for same Participant) user account's access roles / system access permissions via the Online IESO Registration System (Sandbox and/or Production). The Registration System (Sandbox and/or Production) will automatically send a Grant/Revoke ticket to *IESO* ITOPS Customer Support with the requested changes. Participation contact role changes made, take effect immediately via the IESO Online Registration System.
I.03	Receive Grant/ Revoke access ticket task from Online IESO Registration system. Validate Grant/Revoke information.	*IESO* ITOPS Customer Support will receive a Grant/ Revoke access ticket task from the Online IESO Registration system (Sandbox or Production). They will then validate the Grant/Revoke information for the access roles to be granted or revoked.

28.

Ref.	Task Name	Task Detail
I.04	Arrange for update to Rights Administrator's user account to access roles assignment / system access permissions. Notify Rights Administrator	*IESO* ITOPS Customer Support will arrange for updating the Rights Administrator's user account to access roles assignment / system access permission. They will then notify the Rights Administrator where possible of the implemented access role changes.
I.05	Receive confirmation of changes.	The *participant* Rights Administrator will receive confirmation of the changes (Sandbox or Production) to the access roles / system access permissions for the Rights Administrator user account.

Participant Rights Administrator Role Termination Scenario

A Primary Contact is requesting the termination of a *Participant* Rights Administrator role for a person and potentially removal of access roles and User Account deactivation (Sandbox and/or Production).

The steps in the following table are illustrated in the flow diagram entitled Participant Rights Administrator Role Termination Scenario.

Table A-10: Participant Rights Administrator Role Termination Scenario Task Details

Ref.	Task Name	Task Detail
J.01	Remove selected person's Rights Administrator role assignment for selected organization and where applicable request account deactivation via Online IESO Registration System where applicable.	A Primary Contact removes the selected person's Rights Administrator role assignment for selected organization in the Registration System (Sandbox and/or Production) and where applicable requests removal of the person's user account/ access role assignments and potentially account deactivation via the Online IESO Registration System where applicable. If the person still need an *IESO* user account, the process is complete. If the Primary Contact submits access role changes and/or the person no longer needs an *IESO* account the Registration System (Sandbox and/or Production) will automatically send a Grant/Revoke ticket to *IESO* ITOPS Customer Support with the requested changes.
J.02	Receive Grant/ Revoke change ticket task from Online IESO Registration system. Validate grant/revoke information.	*IESO* ITOPS Customer Support will receive a Grant/ Revoke change ticket task from Online IESO Registration system (Sandbox or Production). They will then validate the Grant/Revoke information for the access roles to be revoked.

Ref.	Task Name	Task Detail
J.03	Arrange for removal of the person's User Account's Registration System access and other access privileges and deactivation of the account where applicable. Notify Primary Contact of deactivation of user account and removal of system access privileges where possible	*IESO* ITOPS Customer Support will arrange for removal of the person's User Account's Registration System access and other access privileges (Sandbox or Production) and deactivation of the account where applicable. They will then notify the Primary Contact of deactivation of user account and removal of system access privileges where possible
AA.04	Receive notification of de-activation of Rights Administrator's credential and removal of system access privileges.	The Primary Contact will receive notification of de-activation of Rights Administrator's credential (Sandbox or Production) and removal of system access privileges where possible.

Subscriber User Account Initialization

Initialization of a Participant Contact's User Account.

Once the *participant* representative is registered for a User Account through the Online IESO Registration System, he/she will receive a User Account / Password.

The User Account password, (one time or enduring as applicable) once delivered to the Credential Subscriber can be used immediately.

For more information on system functionality relating to the tasks described below, refer to sections 9 and 10 of this guide.

Table A-11: Credential Subscriber, Account Initialization Task Details

Ref.	Task Name	Task Detail
K.01	Access the web based Identity Management provisioning tools through the *IESO* Portal login for initializing a User Account for the Portal.	If not already done; upon receipt of User Account / password (one time or enduring) for initial issuance or recovery: For a User Account / Password identity credential used with the Portal, Online IESO System, Report site, Energy Market Interface or Outage Management System (Sandbox or Production where applicable); the *participant* person shall access the *IESO* Portal login (Sandbox or Production) for initializing/using a User Account and resetting the temporary password with one of the user's choosing. .
K.02	Use the tool to activate the required identity credentials.	Use the Portal login (Sandbox or Production) to enter in User Account and temporary password.
K.03	Validate User Account / Temporary Password, input new password.	For user Account / Password Identity Credentials used with the Portal, the *IESO* Identity Management System will validate the User Account and one time password and request the user change their password to one of the user's choosing
K.04	Use web based identity management provisioning tool to re-enter correct identity credential	The Credential Subscriber uses the Portal's identity management provisioning tool functions to re-enter the correct User Account and temporary password. If the User Account and temporary password do not work for any reason the initialization process will have to be

Ref.	Task Name	Task Detail
	activation codes /information	terminated and the user will have to request appropriate help from the *IESO* Customer Relations/ Identity Management Officer. **Note**: If the person's User Account / temporary password is known to be correct but does not work then it is possible that the data was intercepted and used to initialize a security profile illegally or more likely there is a technical issue with the *IESO* systems. While the chance of User Account password interception is remote, if the user suspects this has occurred, the user must inform *IESO* Customer Relations so that the problem can be verified with the Identity Management system where appropriate. The User Account's temporary password will be reset and resent to the User. In the case where a user's account is locked it will be unlocked.
K.05	Receive User Account / activation confirmation. Choose security image and phrase, security questions and input answers.	The User Account's successful password change / reset is confirmed within the Portal login web pages to the end user. The person will then need to choose a Portal login security image and phrase, and select their security questions and input answers. When complete the person will be able to use the User Account to login to the Portal, Online IESO System, Energy Market Interface, Report site or Outage Management System where granted access / Contact roles permit.

Periodic Update of Subscriber User Account Password

Table A-12: Update of Account Passwords

Ref.	Task Name	Task Detail
L.01	Login to the IESO Portal with a User Account	For the Portal a User Account and password (Sandbox or Production) can be used to login. Security questions selected by the user in the OAAM component may also be posed to which the correct answer must be provided.
L.02	Check for password renewal and initiate password change process if required.	The Portal OAM and OAAM Identity Management components shall check to see if password update is required and notify the user.
L.03	No notification of update received at Portal Identity Management tools. Use Portal etc. as required for normal business operations.	If no notification of imminent User Account password expiry is received at the Portal OAM and OAAM Identity Management tools then the user can use it as required to access the *IESO* Portal, Registration System, Report site or Reliability Compliance Tool normal business operations.
L.04	Portal Identity Management tools sends User Account password prompt user to change password.	The Portal OAM and OAAM Identity Management tools send the user a prompt to change their password.
L.05	Change password in Portal Identity Management using old password or security questions to enable change.	The user shall follow the instructions on the Portal Identity Management web pages to change their password to a new one that meets the password rules.

31. **Error! No text of specified style in document.Error! No text of specified style in document.** IMP_GDE_0088

Description of Changes

Credential Subscriber Information

Types of Changes

Changes to Credential Subscriber information are differentiated on the basis of their impact on identity credential (User Account / Password).

Access Role(s) change – The requested change requires changes to a user's system access permissions (grant or revoke) for any *IESO* access role that the *participant* is valid for through their registered market and program participations.

Person and account information change – The requested change requires a change to the identity credential issued to the requestor including first name, middle name, last name, phone number and email address.

Changes to the User Account password are handled under the password recovery process.

A Significant Change due to actual name change may require re-proofing of the identity of the Credential Subscriber via the *participant* internal processes but this is not mandated by the *IESO*.

When to Submit a Change Request

All Credential Subscriber information retained by the *participant* person and Rights Administrator and/or Primary Contact contained within or represented by a User Account should always remain accurate. If a *participant* person and Rights Administrator and/or Primary Contact are aware of inaccuracies, a Registration system request should be submitted by the Rights Administrator.

Rights Administrator Information

Types of Changes

Changes to a Rights Administrator person's information are differentiated on the basis of their impact to the Rights Administrator role itself and on identity credential (User Account / Password).

Access Role(s) change

Changes to a person's Rights Administrator role (adding or removing the role to the person) will impact the person's Registration System access permissions.

Any other requested change requires changes to a user's system access permissions (grant or revoke) for any IESO access role that the *participant* is valid for through their registered market and program participations.

Person and account information change

The requested change requires a change to the identity credential issued to the requestor including first name, middle name, last name, phone number and email address.

Changes to the User Account password are handled under the password recovery process.

When to Submit a Change Request

All Rights Administrator information retained by the *participant* Rights Administrator and/or Primary Contact contained within or represented by a User Account should always remain accurate. If a Rights Administrator or Primary Contact is aware of inaccuracies, a Registration system request should be submitted by the Rights Administrator.

– End of Section –

32. Part 1.3: Identity Management Operations Guide **Error! No text of specified style in document.Error! No text of specified style in document.**

Appendix B: Glossary of Terms

The following definitions and acronyms used within this guide are specific to *IESO* Identity Management.

18 Month and Long-Term Assessments Contact - Person responsible for data submissions for the 18-Month Outlooks and longer-term reliability assessments for their organization.

Access Role Change – is a change that does not impact credentials but impacts system access for a User Account.

Application Subscriber - is the term used for *participant* application/server system entity that will be using a User Account identity credential in combination with an API or system for access to an *IESO* Web site. An Application Subscriber is any application/server system that is associated with a service level User Account identity credential. Associated with the Application Subscriber is a Custodian.

Bids and Offers Contact - Section to be contacted regarding the bids or offers for your organization (24/7 - Operations Desk, Energy Trading Floor, Control Centre).

Capacity Auction Contact - Person responsible for all tasks related to capacity auctions.

Communications and Customer Service Contact - Person or Section responsible for receiving IESO information on communications and media issues and/or delivering customer service, for their organization.

Compliance and Market Surveillance Contact - Person responsible for discussing *participant* conduct and activities within the *IESO-administered markets* for their organization.

Contributor Information Contact - Person responsible for all tasks related to contributor information.

Control Room Section - Control room section for the participant organization.

Credential Subscriber - General term for Individual Subscriber or Application Subscriber.

Custodian - is normally the individual that owns and has rightful possession of the information. If the ownership has been delegated, the delegate has the rightful possession of the information and therefore is the custodian.

Day-Ahead-Bids and Offers Contact - Person or Section responsible for submitting and/or changing day-ahead bids or offers for their organization.

Demand Response Auction Contact - Person responsible for all tasks related to Demand Response Auction.

Dispatch Data Submitter - Person or Section responsible for submitting and/or changing the bids or offers for their organization.

Dispatch Data Viewer - Person or Section responsible for viewing and/or changing real-time bids or offers for their organization.

Domain - is the community consisting of the Subscribers.

Emergency Preparedness Plan Contact- Person responsible for submitting and updating the Emergency Preparedness Plan for their organization.

Energy Limited Resource Forecast Contact - Person responsible for submission of the energy limited resource forecast for their organization.

Equipment Outage Submitter - Person responsible for submitting, updating and canceling outage request on equipment owned or operated by their organization.

Equipment Outage Viewer - Person who can view outage information on equipment owned or operated by their organization, and equipment permitted for viewing by other organizations.

Equipment Registration Specialist - Person responsible to submit attributes to their equipment, facility and resources for your organization.

E-Tag Curtailment Contact - Person or Section responsible for receiving notifications regarding the limiting of energy flow on an arranged and/or confirmed interchange transaction for their organization.

IESO ITOPS Customer Support - is responsible for receiving user Account and system access role /permission request and for performing account creation and issuance, name changes, access role changes and user Account deactivation.

Individual Subscriber - is the general term used for *IESO* Identity Management individual end entities who apply for a User Account. An Individual Subscriber is any entity whose name appears as the subject in a User Account.

Information Technology Contact - Person or Section responsible for communicating with the IESO about information technology services, projects and changes for their organization.

Invoicing and Banking Contact - Person responsible for submitting and maintaining, or approving banking information for their organization.

Market Participant Compliance Contact - Person responsible for reliability compliance under the Ontario Reliability Compliance Program for their organization. This includes preparing and submitting Reliability Compliance Self-Certifications, periodic data submittals and data requests. In case of potential non-compliance, submitting Reliability Compliance Self-Reports and providing associated mitigation plans.

Market Participant Escalation Contact - Person responsible for reporting reliability compliance on escalated matters (due dates are missed) under the Ontario Reliability

Compliance Program for their organization. This person is preferably of higher authority than the person designated as the Market Participant Compliance Contact.

Market Power Mitigation Contact - Person responsible for registering *reference levels* and *reference quantities* for a *resource* of their organization, and corresponding with the *IESO* regarding *physical withholding* and *economic withholding* assessments.

Meter Trouble Report Contact - Person or Section responsible for monitoring metering data and the response of the Meter Service Provider, and responding to the late notification of Meter Trouble Reports for their organization.

MMP Meter Trouble Report Contact - Person responsible for monitoring Meter Trouble Reports, adding comments, and receiving Meter Trouble Reports status notifications.

MSP Meter Trouble Report Contact - Person responsible for responding to and initiating Meter Trouble Reports on meter issues and outages.

MSP Revenue Metering Contact - Person responsible for submitting meter registration requests, monitoring in-flight requests and data and viewing the master data for registered *meter installations*.

Notice of Disagreement Contact - Person responsible for submitting *Notices of Disagreement* for settlement statements for their organization.

Message - is a digital representation of a unit of information with a human readable equivalent. For example, a message may be a *participant*'s *bid* or *offer* for an electrical market, pricing data, e-mail message or a file.

Participant Primary Contact – is an officer of a *participant* organization who is authorized by the Participant Authorized Representative to register Participant Rights Administrators on behalf of the *participant* organization. The Participant Primary Contact designates and delegates the role of the Participant Rights Administrator.

Participant Rights Administrator - means an employee of a *participant* Organization that is appointed by a Participant Primary Contact and is authorized to register for User Accounts and system access role/permissions for *participant* Individual Subscribers or Participant Application Subscribers requesting market systems access and an *IESO* identity credential.

Participant Authorized Representative - a senior officer at a *participant* organization who can authorize an officer (i.e., a high-level employee) of the *participant* organization to perform the responsibilities of a Participant Primary Contact.

Password Recovery – For a User Account identity credential this is handled by issuance of a new temporary password to the Credential Subscriber or for account used with the MIM Web Services, issuance of a new enduring password to the Credential Subscriber.

Prudential Requirements Contact - Person responsible for submitting prudential information and is the point of contact for any issues regarding Prudential information (margin calls, warnings and defaults) for their organization.

Revenue Metering Contact - Person responsible for viewing the master data for registered meter installations and in-flight data submitted during a meter registration request. The Revenue Metering Contact for a *transmitter* is also responsible for approving Site Registration.

Revenue Metering Data Contact - Person responsible for managing meter data report profiles, as well as requesting and retrieving revenue meter data reports for their organization.

Settlements Contact - Person responsible for issues/questions relating to *settlement statements* for their organization.

Significant Change - is a change in a user's credentials including change of first or last name, change of e-mail address, phone number or User Account value is no longer accurate.

– End of Section –

Appendix C: List of Participations

The following participations currently exist within the Online IESO Registration system applicable to the Ontario wholesale electricity market. One or more participation contact roles that a person may be enrolled in; existing within Online IESO for each participation.

Capacity Auction Participant - The organization is eligible to participate in a capacity auction.

Capacity Market Participant-MMP - The organization is responsible for the financial settlements with respect to a resource with a *capacity obligation*.

Capacity Market Participant-Operator - The organization operates a resource with a *capacity obligation.*

Capacity Market Participant-Owner - The organization has a *capacity obligation.*

Capacity Market Participant-RMP – The organization submits dispatch data with respect to a resource with a *capacity obligation*.

Central Service Provider - No definition provided

Centralized Forecasting Provider - The organization provides a centralized forecasting service relating to variable generation.

Centralized Forecasting-Variable Generator - The organization participates in the Centralized Forecasting program to provide operational and meteorological data.

Demand Response Auction - The organization is eligible to participate in a Demand Response Auction.

Demand Response Market Participant-MMP - The organization is responsible for the financial settlements with respect to a Demand Response resource.

Demand Response Market Participant-Operator - The organization operates a Demand Response resource.

Demand Response Market Participant-Owner - The organization has a Demand Response Capacity Obligation.

Demand Response Market Participant-RMP – The organization submits dispatch data with respect to a Demand Response resource.

Distributor-Metered Market Participant - The organization is responsible for the financial settlement of metering data associated with a registered load facility.

Distributor-Metered Market Participant Transmission Tariff - The organization pays for one or more transmission services to a transmitter relating to an owned load facility.

Distributor-Operator - The organization operates a distribution system.

Distributor-Owner - The organization owns a distribution system.

Electricity Storage Participant-MMP - The organization is responsible for the financial settlements with respect to an electricity storage resource.

Electricity Storage Participant-MMPT - The organization is responsible for the financial settlement of metering data associated with a registered electricity storage facility.

Electricity Storage Participant-Operator- The organization operates an electricity storage facility.

Electricity Storage Participant-Owner - The organization owns an electricity storage facility.

Electricity Storage Participant-RMP - The organization submits dispatch or schedule data with respect to a registered electricity storage resource.

Embedded Electricity Storage Facilities - This participation is for organizations that do not require to be market participants, with embedded facilities (connected to a distribution system) greater than 10 MW.

Embedded Generation Facilities - This participation is for organizations that do not require to be market participants, with embedded facilities (connected to a distribution system) greater than 10 MW and that are not wind or solar generation.

Embedded Load Facilities - This participation is for organizations that do not require to be market participants, with embedded facilities (connected to a distribution system) that are required to register with the IESO.

Energy Trader-Exporter - The organization exports electricity out of Ontario.

Energy Trader-Importer - The organization imports electricity into Ontario.

Generator-Metered Market Participant - The organization is responsible for the financial settlement of metering data associated with a registered generation facility.

Generator-Metered Market Participant Transmission Tariff - The organization pays for one or more transmission services to a transmitter relating to an owned generation facility.

Generator-Operator - The organization operates a generation facility.

Generator-Owner - The organization owns a generation facility.

Generator-Registered Market Participant - The organization submits dispatch or schedule data with respect to a registered generation facility.

Industrial Accelerator - The organization is eligible to participate in the Industrial Accelerator Program (IAP) which is designed to assist eligible transmission-connected companies to fast track capital investment in major energy.

Load-Metered Market Participant - The organization is responsible for the financial settlement of metering data associated with a registered load facility.

Load-Metered Market Participant Transmission Tariff – The organization pays for one or more transmission services to a transmitter relating to an owned load facility.

Load-Operator - The organization operates a load facility.

Load-Owner - The organization owns a load facility.

Load-Registered Market Participant - The organization submits dispatch data with respect to a registered load facility that will be dispatchable.

Meter Data Associate - The organization will be authorized to be assigned by participants as a meter data associate to the participants' delivery points for the purpose of retrieving revenue meter data reports.

Metering Service Provider - The organization provides, installs, commissions, registers, maintains, repairs, replaces, inspects and tests metering installations.

Multi-Distributor Customer Pay-for-Performance - The organization participates in the Province-wide Pay-for-performance Conservation and Demand Management Program designed for Multi-Distributor Consumers.

Operational Service Provider - - No definition provided

Program-Non-Specific - The organization participates in an IESO program that is not listed.

Regulation Service Provider - The organization provides a regulation service to maintain balance between load and generation.

Retailer - The organization sells or offers to sell electricity to or for a consumer.

Section – a non-person *participant* contact entity such as a Service Desk, Control Room Operations area or Trading Floor that is registered with the IESO in the Registration system.

Settlement Service Provider - The organization provides a financial settlement service relating to metering data associated with a registered facility.

Smart Metering Cost Recovery-Embedded Distributor - The organization has a financial settlement with respect to the smart metering charge.

Smart Metering Entity - No definition provided

Smart Metering Operating Service Provider - The organization operates Ontario's Meter Data Management and Repository (MDM/R) system.

Smart Submetering Provider - The organization has a financial settlement with respect to Ontario Clean Energy Benefit Program Government electricity support program as a Smart Unit Sub-Metering Provider

Transmission Rights - The organization participates in the Transmission Rights market.

Transmitter-Operator - The organization operates a transmission system.

Transmitter-Owner - The organization owns a transmission system.

36.

- End of Section –

37.

References

Document Name	Doc ID
Market Rules	MDP_RUL_0002
Market Manual 1: Market Entry, Maintenance & Exit, Part 1.1: Participant Authorization, Maintenance & Exit	MDP_PRO_0014
Market Manual 3: Metering, Part 3.1 Metering Service Provider (MSP) Registration, Revocation, and De-registration	MDP_PRO_0007
Market Manual 6: Participant Technical Reference Manual, Section 2.0: Participant Workstation, Network & Security	IMO_MAN_0024

– End of Document –