

Digital ID Certificates Guide



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Revision 1

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1. Introduction

The U.S. Nuclear Regulatory Commission (NRC) requires individuals and organizations to have digital ID certificates in order to submit and/or view documents electronically. The Electronic Information Exchange (EIE) system was the first NRC system requiring digital IDs. This system supports several document submission forms used by different program areas at the NRC. The NRC is developing more applications, which will require digital certificates for access.

Digital ID certificates are stored in the user's web browser such as Microsoft's Internet Explore web browser.

The NRC uses client style digital certificates issued through VeriSign Inc. The digital certificates enable NRC's users to establish secure encrypted communications between the users' PC and the NRC's application servers. The NRC uses digital certificates in conjunction with logins and/or special access lists to control access to some applications. The NRC uses digital certificates for digital signing and to enable encrypted communications using a two-key security technology and a public key infrastructure. Digital certificates provide an added level of protection against electronic fraud and malicious Internet based communications. Use of digital certificates makes it much more difficult for someone to electronically steal another person's login and password and transmit false or misleading information.

2. NRC's Use of Digital ID Certificates

Three different EIE programs require NRC customers to use digital ID certificates. People submitting documents to the NRC must determine which program will meet their needs and contact this program's staff to get approval to participate. The three program areas are:

- 1. Criminal History Program
- 2. Adjudicatory Proceedings
- 3. General Form

The Criminal History Program supports nuclear power plant requests for FBI background investigations of their staff. Fingerprints and other personal data are transmitted via this program. Participants in this program need to be sponsored by a nuclear power plant and must be included on the Criminal History Program's access list.

The Adjudicatory Proceedings Program (which involves any case being brought before the NRC) uses digital ID certificates and various access lists to enable hearing participants to submit and view appropriate hearing materials. Access rights to hearing materials are controlled based upon the sensitivity of documents and other factors judged appropriate. Documents associated with various adjudicatory hearings will have lists of people who may have various access rights to hearing documents.

The General Form Program is less restrictive and is functionally like an electronic mailbox for incoming documents from various individuals representing many public and corporate entities. This form allows people to submit digitally signed documents to the NRC for a variety of purposes.

3. Public Key Infrastructure Security – What is it?

NRC-issued VeriSign certificates use a Managed Public Key Infrastructure (MPKI). A Public Key Infrastructure (PKI) enables users to securely and privately exchange information through the use of a public and private cryptographic key pair that is obtained and shared through a trusted authority. PKI provides a digital certificate that can identify an individual, device, or organization and directory services that can store, add, and revoke certificates. PKI is an enabler of trust that provides strong user identification, confidential communication, data integrity, and evidence for non-repudiation among individuals who may or may not have had prior knowledge of each other. Non-repudiation provides a proof-of-participation in an action or transaction by establishing that a user's private key was used to digitally sign an electronic business transaction. The trust that PKI facilitates is enterprise-wide through distinct yet integrated policies and technology components. These policies and components explicitly identify and determine the roles, responsibilities, constraints, range of use, and services available.

Mathematically related key pairs (a public key and a private key) are generated through the use of PKI technology. While the users' private key is safeguarded, their public key is linked to identifying information in a digitally signed public key certificate, certifying their ownership of both public and private keys. The certificate and the keys are used in systems and applications to represent the user or individual identified by the certificate. A user must have one current key pair for encryption and decryption, and a second key pair for digital signature and signature verification.

The public key can be accessed by anyone. Only the person to whom the private key is issued has knowledge of this key; the private key is never revealed or transmitted. What one key in the pair encrypts, only the other key can decrypt. The keys are mathematically related in such a way that guessing one key from the other is almost impossible. For example, a user (Bob) can send a message to another user (Carol) by encrypting the message with "Carol's" public key because only "Carol" holds the private key to decrypt it. For authenticity (digital signature), "Bob" can send "Carol" a message encrypted with his private key. "Carol" can be certain the message came from "Bob" because the message can be decrypted only by using "Bob's" public key. The identity of "Bob" is verifiable because only "Bob" has access to his private key.

A digital signature is an electronic signature that can be used to authenticate the identity of the sender of a message or the signer of a document. Besides being easily transportable, the digital signature ensures that the content of the message or document is unchanged. When time-stamped, the ability to ensure that the original signed message arrived means that the sender cannot easily repudiate it later.

Certification Authorities (CAs) represent the people, processes, and tools to create digital certificates that securely bind the names of users to their public keys. The following four parties rely on the appropriate level of trust with respect to the creation and use of public key certificates:

- ① The individual subscriber or entity identified by the certificate.
- ② The Certification Authority who issues the certificate,
- The Registration or Validation Authority that provides certificate validation services in certain implementations, and
- The Relying Party (company, agency or individual) relying on the certificate.

As long as users trust a CA and the CA's policies for issuing and managing certificates, the users can trust certificates issued by the CA. The CA investigates individuals and verifies their identity, binding that identity to the public key and verifying that the individual has the

private key. Levels of trust are placed on the level of identification and verification required by the certificate level (e.g. low, moderate, high).

4. Overview of the steps to get a Digital ID Certificate from NRC

There are three steps to get a VeriSign Digital ID from the NRC:

- ① Request an NRC Approval Code from the associated NRC program staff,
- ② Enroll for your Digital ID certificate on-line using the NRC Approval code, and
- Install your Digital ID certificate in your personal computer's web browser.

To submit documents to the NRC, you must request inclusion in a program and be given a NRC digital ID approval code. This code is needed when you enroll for your digital ID. The first step in the digital ID request process is to contact the appropriate NRC program area person. Some of the NRC's electronic document submittal programs are set up for very specific groups of people with specialized document transmission needs. To open forms and submit documents for NRC's Criminal History program or NRC's Adjudicatory Proceedings program, you must have a digital ID and you must be included on a computerized access list for the program.

After you have received the NRC digital ID approval code from the appropriate NRC authority, you are now ready to begin to enroll on-line for a digital ID. You will be required to provide some basic information on the digital ID enrollment form including your name, phone number, email address, company name, job title and your digital ID Approval Code. When you submit this form, the information is electronically sent to NRC's VeriSign digital certificates administrator for review and approval. Within minutes of submitting you should receive back from NRC an email acknowledging receipt of your enrollment request. If your enrollment is approved, then a second email will be sent to you with instructions for installing your digital ID certificate. Approval may take up to three business days.

If your enrollment is approved, you will receive an email that contains two things: first it contains a 10-digit VeriSign-issued Personal Identification Number (PIN). Second, it contains a web link to the VeriSign certificate digital ID pick up site. For security purposes you are required to pick up your digital ID certificate from the same computer where you enrolled for this certificate. When you pick up the certificate, it is downloaded and installed into your PC's web browser. This certificate can then be exported (copied) to a removable media for backup, and it can be imported into other computers. It is your responsibility to protect your certificate both physically and with a strong password. We recommend setting certificate security to "High", which then requires you to enter your certificate password each time you go to use it. If a certificate password is forgotten, it cannot be reset. A new certificate must be requested).

5. How to Request an NRC Approval Code

To request an NRC Approval Code, you must first determine which NRC program meets your needs. Each program area will want basic information from you including your name, email address, phone number, organization, role in the organization and reason for submitting documents to the NRC.

Criminal History Program participants should call (301) 415-6511 or send an email request to the NRC's Criminal History Program staff at: CrimHist@nrc.gov

Adjudicatory Proceedings Program participants should call (301) 415-1679 or call (301) 415-1966 or send an email request to the NRC's Office of the Secretary staff at: HearingDocket@nrc.gov

NRC General Form Program participants should call (301) 415-0439 or send an email request to the NRC's General Form Program staff at: GeneralForm@nrc.gov

ERDS participants should send an email request to the NRC's ERDS staff at: ERDS@nrc.gov

6. Digital ID Certificate Enrollment Steps

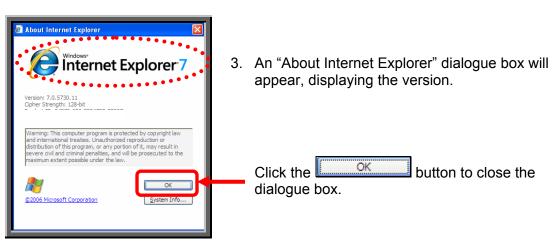
You must pick up your digital ID certificate from the same PC where you enrolled. This is a security precaution imposed by VeriSign. Therefore only enroll from a PC where you receive email for the email address to be associated with your digital ID certificate.

Prior to starting the Digital ID enrollment process, you must first have an NRC Approval Code since this is a required field in the electronic enrollment form. If you don't have an NRC Approval Code, follow the instructions within <u>Section 5</u> of this document to get an approval code.

1. Open your Internet Explorer browser.

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Determine if you have Internet Explorer
 7.0 by clicking on the Help tab and selecting: About Internet Explorer

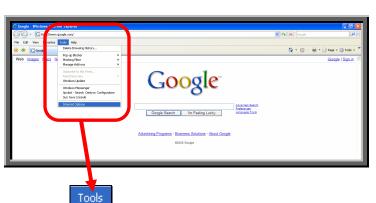


Do you have Internet Explorer 7.0?

Yes Continue with the Step #4 instructions below.

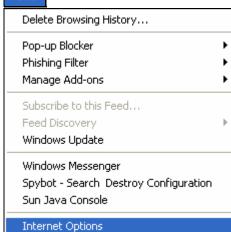
No Continue with the instructions on Page 10, Step #14.

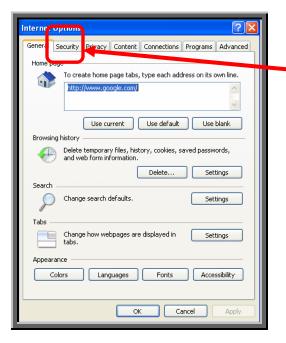
4. For Internet Explorer 7.0 users, the following steps must be conducted prior to successfully completing the enrollment process if security is set to "High" or "Medium High". You must reduce your PC's Internet Explorer security to "Medium" for the enrollment process, then you may reset it higher again.



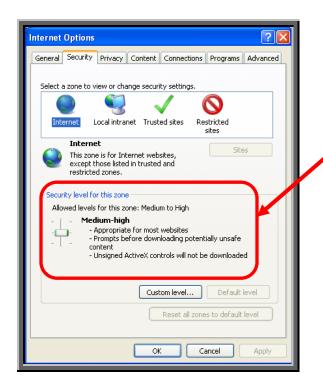
5. Click on the Tools tab. Then scroll down and select:

Internet Options

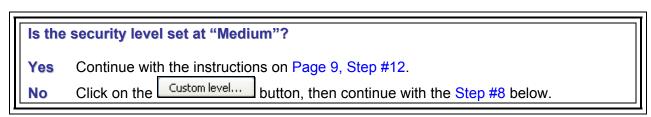


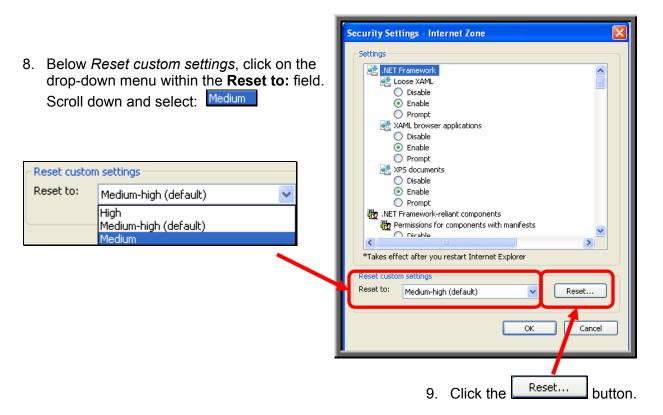


6. Click on the Security tab



Below Security level for this zone,
 the security level is displayed.

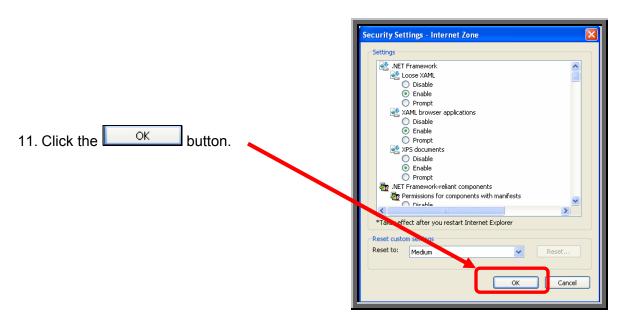


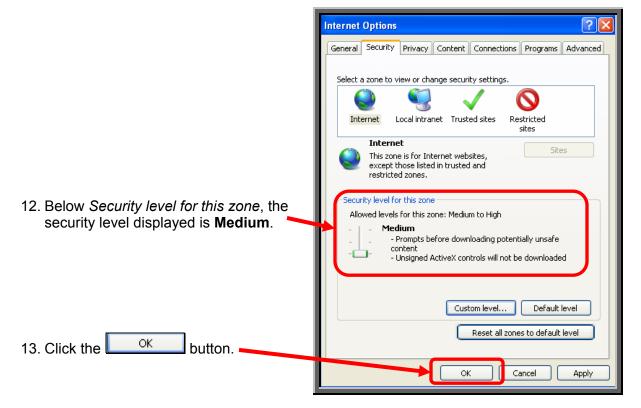




10. A Warning dialogue box will appear. Click the

Yes button to change the settings.





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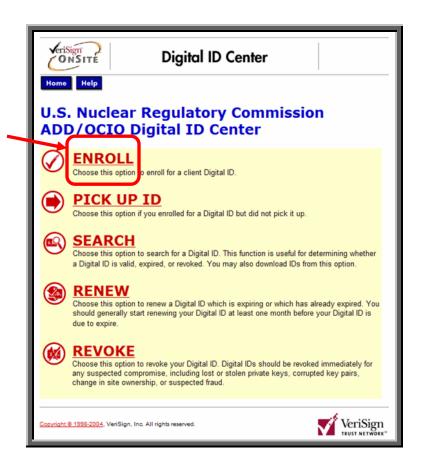
The steps to enroll for an NRC-issued digital ID certificate are:

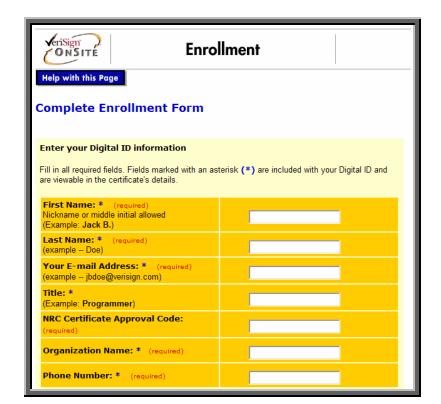
14. Navigate to the NRC public website: www.nrc.gov .



- 15. Move your mouse cursor over the the screen. A drop-down menu will appear. Click on Electronic Submittals.
- 16. Scroll down to the "**Submittal Instructions**" section and click on the <u>NRC's Digital ID</u> <u>Center</u>.

17. Click on the ENROLL option.



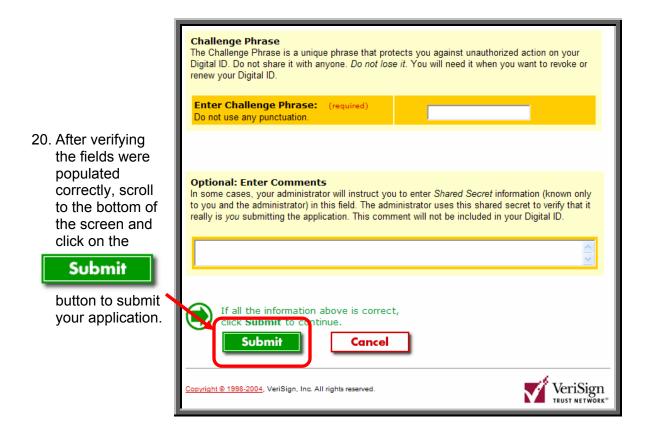


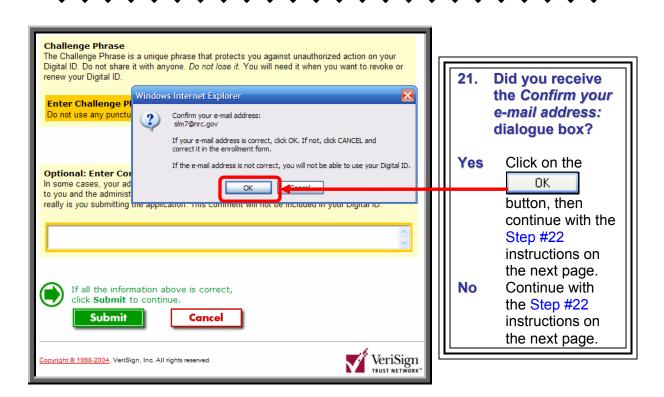
18. The Enrollment Form will be displayed.

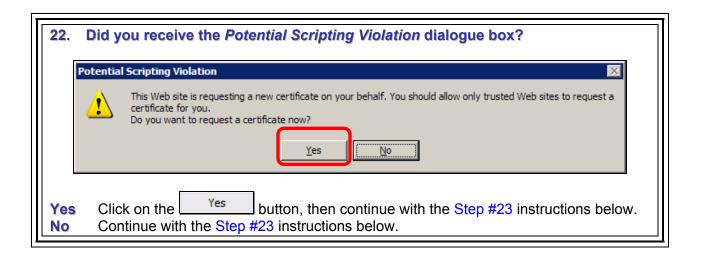
Helpful tips for filling out the Enrollment Form:

- Include your middle initial after your first name as in "John D".
- The email address you enter will be stored on your digital ID certificate and has multiple uses including:
 - ① It is used to send your certificate to you
 - ② It must match the email address stored in NRC access list(s) in order for you to be able to submit documents other than through the General Form
 - ③ It is used to send your annual renew reminder messages.
- The challenge phrase is needed for you to revoke your certificate if, for example, you
 change jobs and no longer need a certificate. It may also be needed a year from
 now in order to renew your digital ID certificate.
- The challenge phrase rules are:
 - ① 1 to 32 characters long
 - ② Only letters, numbers and/or spaces
 - ③ Case and space sensitive (avoid trailing blanks)
 - Spaces and numbers are not required
 - S Punctuation is not allowed
- The "Optional: Enter Comments" can be ignored since this is not used by the NRC.
- 19. Complete the online enrollment form, populating all required fields.

Note: When entering your E-mail Address, ensure it is correct before submitting your request.







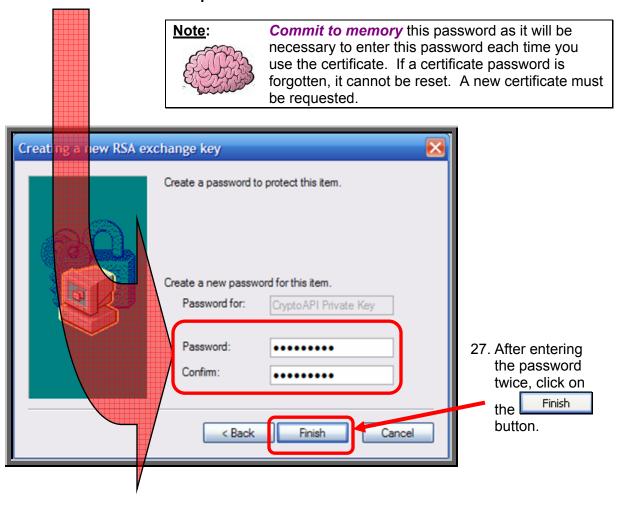
23. At the Creating a new RSA exchange key dialogue box, click on the

Set Security Level ... button.



Importing a new private exchange key × 24. Click on the radio button for High Choose a security level appropriate for this item. activate the password protection for your Request my permission with a password when this digital ID certificate. Request my permission when this item is to be used. 25 Click on the Next> button to continue. Next > Cancel

26. Create and enter the **new password twice**.



Importing a new private exchange key

An application is creating a Protected item.

CryptoAPI Private Key

CryptoAPI Private Key

Security level set to High

OK

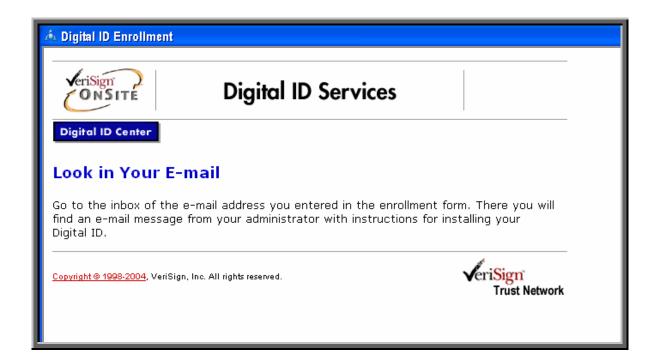
Details...

OK

Cancel

Details...

You have now successfully requested your digital ID certificate. A notification will appear to **Look in Your E-mail**.



Within minutes you should receive an email acknowledging receipt of your enrollment request.

Within several hours (Eastern Standard Time business hours) your request should be reviewed and approved or disapproved. You should then receive a second email. The approval email's subject is: "Your Digital ID is ready".

Follow the instructions in this document for installing a digital ID certificate (see <u>Section 7</u>, <u>Digital ID Certificate Installation Steps</u>).

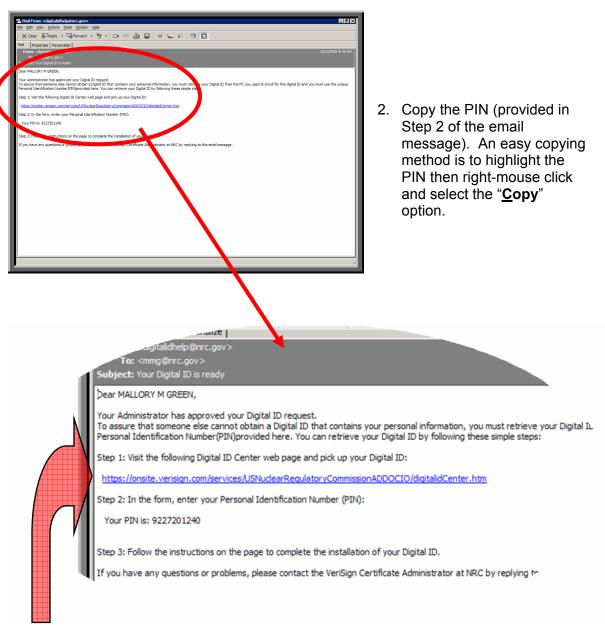
If you have not received an approval or rejection email within two business days, send an email to DigitalIDHelp@nrc.gov or call (301) 415-0439.

7. Digital ID Certificate Installation Steps

You will receive a "Your Digital ID is ready" email, if your digital ID certificate request is approved. This email will contain both a VeriSign provided Personal ID Number (PIN) and a link to NRC's Digital ID Center.

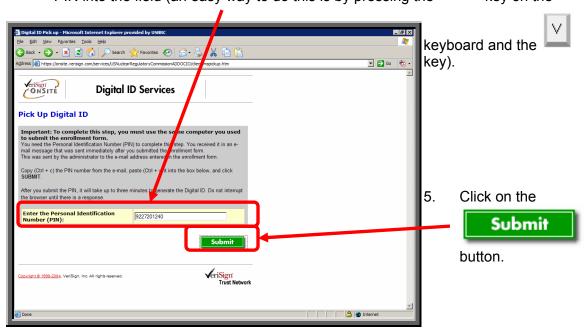
The steps to pick up and install your digital ID certificate are:

1. Open the "Your Digital ID is ready" email message.



3. Next, click on the link (provided in Step 1 of the e-mail message), which takes you to NRC's Digital ID Center's "PICK UP ID" web page.

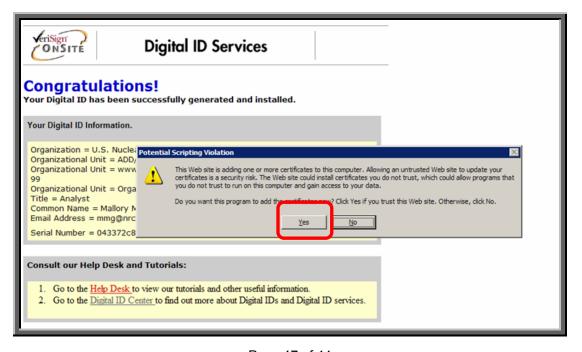
4. Click within the **Enter the Personal Identification Number (PIN)** field and paste the PIN into the field (an easy way to do this is by pressing the key on the



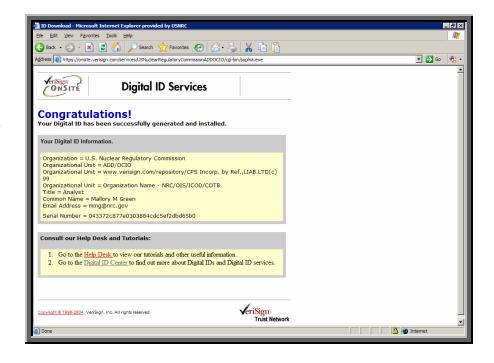
6. Did you receive a Potential Scripting Violation dialogue box (see screen print below)?

Yes Click on the Yes button, then continue with the instructions at the top of the next page.

No Continue with the instructions at the top of the next page.



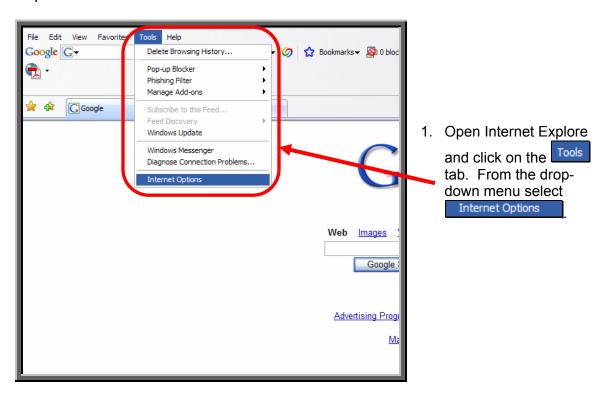
You will receive a **Congratulations!** screen telling you that your digital ID certificate have been successfully generated and installed.



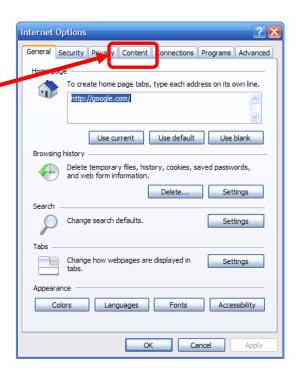
8. Digital ID Certificate Viewing Steps

Your VeriSign digital ID certificate is installed into your browser. The following steps on your PC may be somewhat different depending upon your browser, browser version, browser setting, operating system and operating system settings.

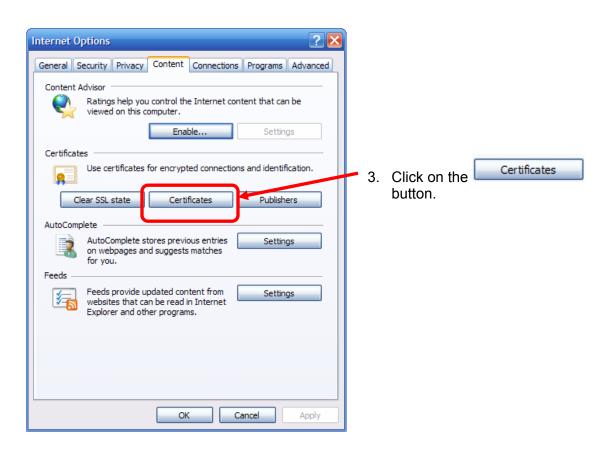
To view your certificate in the Internet Explorer browser Version 6.0, complete the following steps:

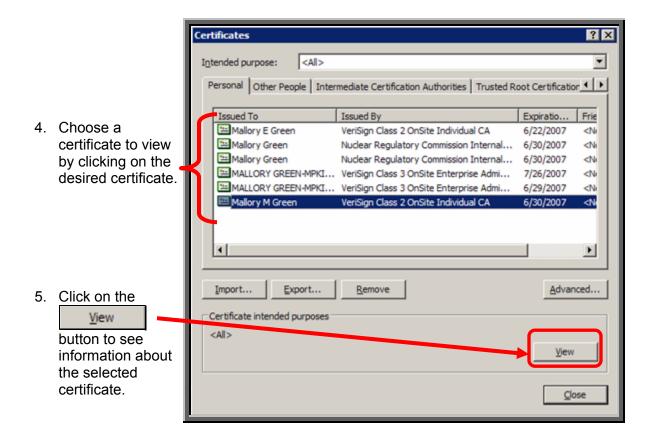


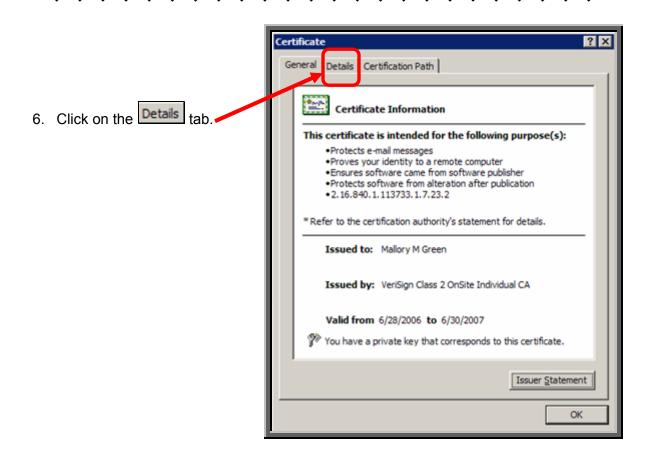
2. Select the Content tab in the Internet Options window.

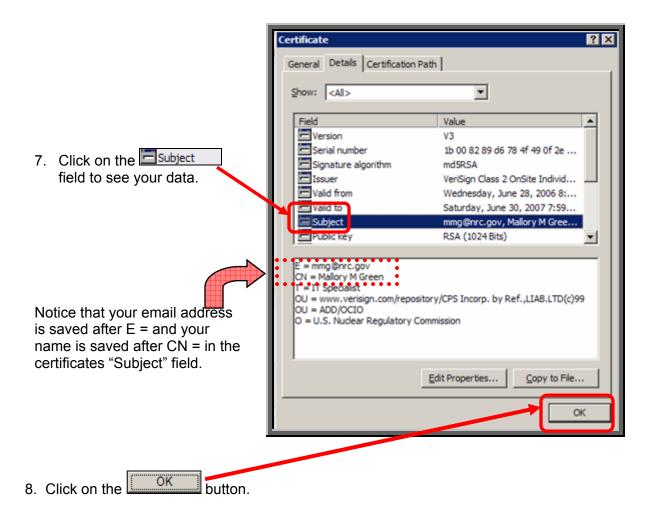


Note: Under some restricted computer access and security settings users may not have all the above Internet Options tabs and may be prevented from seeing, exporting or deleting their digital ID certificates via their computer browser.



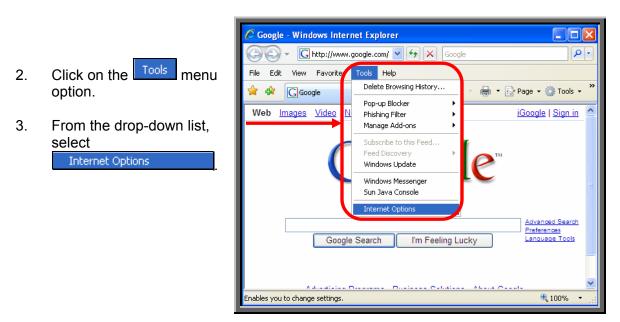




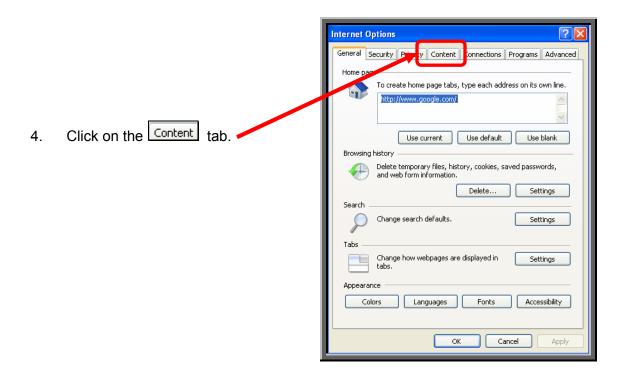


9. Digital ID Certificate Export

1. Open Internet Explore browser.



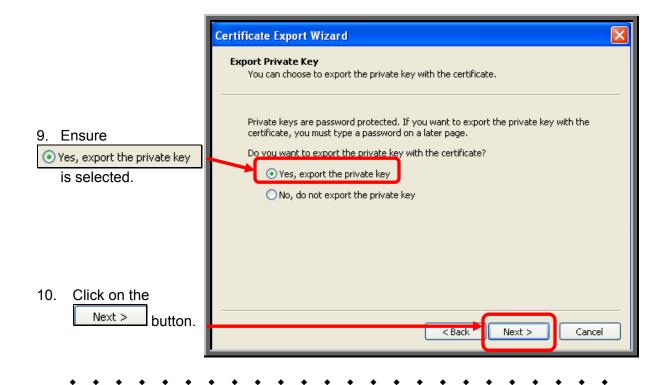
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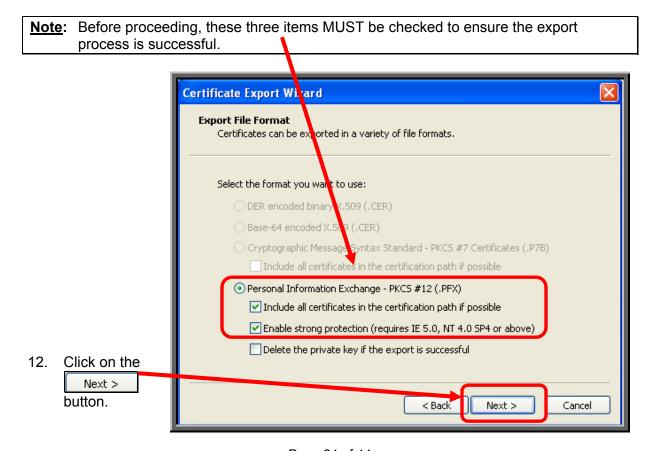
Internet Options General Security Privacy Content Connections Programs Advanced Content Advisor Ratings help you control the Internet content that can be viewed on this computer. Enable... Certificates Certificates Click on the 5. Use certificates for encrypted connections and identification. button. Clear SSL state Certificates AutoComplete AutoComplete stores previous entries Settings on webpages and suggests matches for you. Feeds Feeds provide updated content from websites that can be read in Internet Settings ${\sf Explorer \ and \ other \ programs.}$ Cancel Apply

Certificates Intended purpose: <All> 6. The Export button may Personal Other People Intermediate Certification Authorities Trusted Root Certification not be activated. If this Issued To Issued By Expiratio... Friendly Name occurs, you must click 🕮 John L Doe Nuclear Regulatory C... 4/11/2008 ≺None> on the certificate that is John L Doe Nuclear Regulatory C... 4/11/2008 <None≻ going to be exported **≌**John Doe VeriSign Class 2 OnS... 4/21/2008 <None> (which is listed within the Personal tab). This will activate the Export button. Advanced... Import.. Export.. Remove icate intended purposes <All> Export... Click on the 7. View button. Close

Welcome to the Certificate Export Wizard This wizard helps you copy certificates, certificate trust lists and certificate revocation lists from a certificate store to your disk. A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept. 8. In the Export To continue, click Next. Wizard screen, click on the Next > button. < Back Next > Cancel



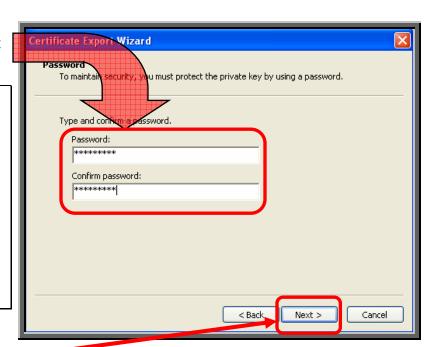
- 11. Select the following on the Certificate Export File Format screen;
 - Personal Information Exchange.
 - ☑ Include all certificates in the certificate path if possible.
 - ☑ Enable strong protection (requires...).



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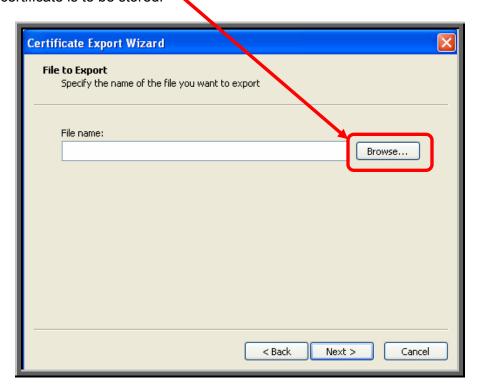
13. Type in an export/import password twice.

Note: This password is created during the export process and only used during the import process. It should not be confused with your digital ID certificate password set immediately after setting security to "High" for your certificate.



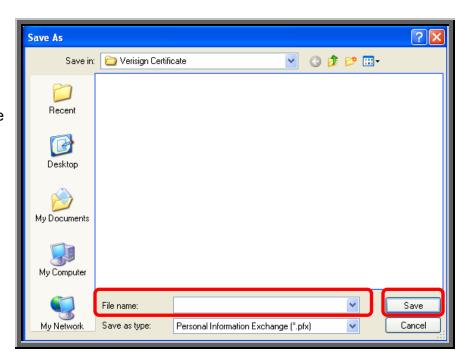
14. Click on the Next > button.

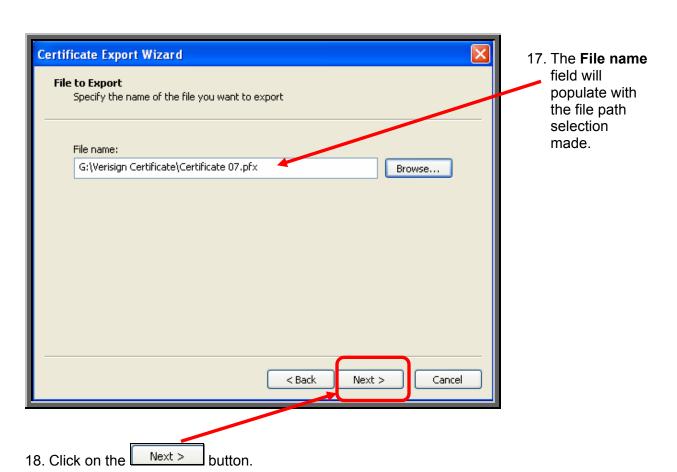
15. Select the Browse... button to navigate to the appropriate file path location of where the certificate is to be stored.

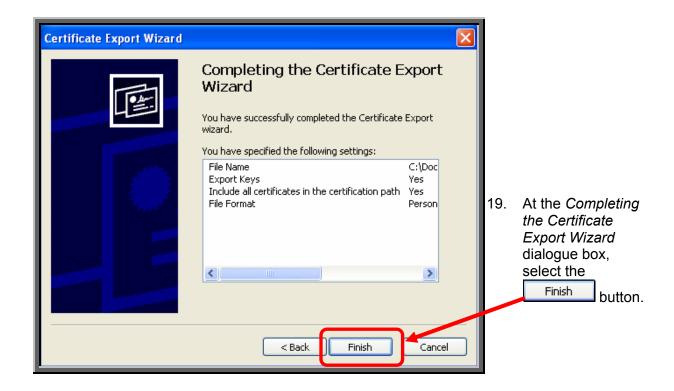


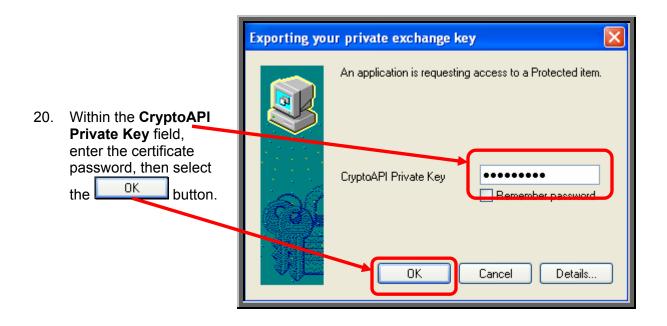
Note: If you know the file directory location of where the certificate is to be stored, you may simply type the file path into the **File name** field, then proceed to the instructions on Page 26, Step #18.

16. Type the certificate name within the **File** name field (the certificate file's extension is Personal Information Exchange (*.pfx)), then click on the Save button.



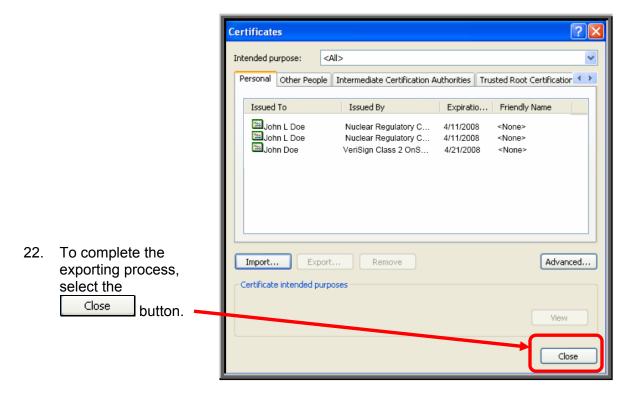




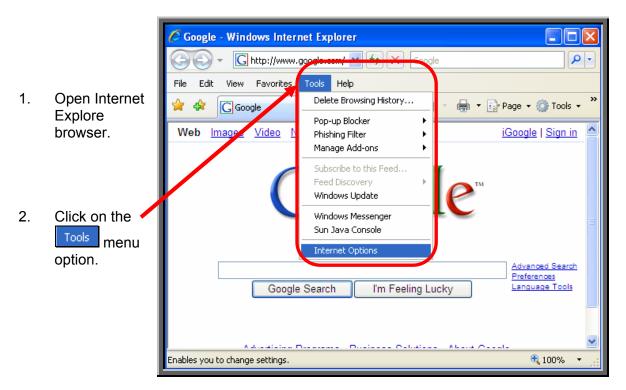




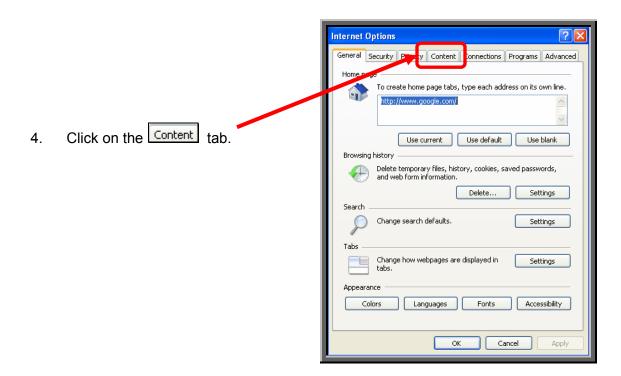
21. A dialogue box will appear with the message that the export was successful. Select the button

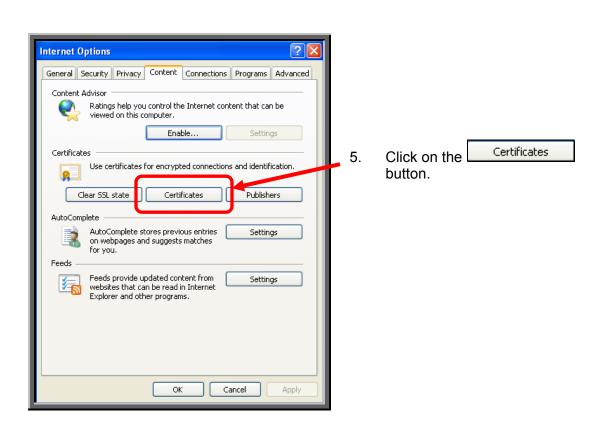


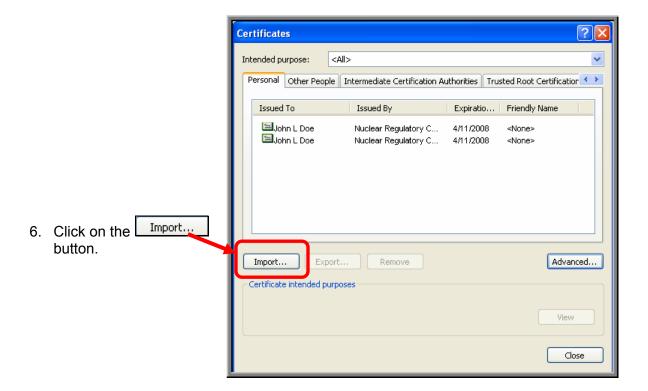
10. Digital ID Certificate Import



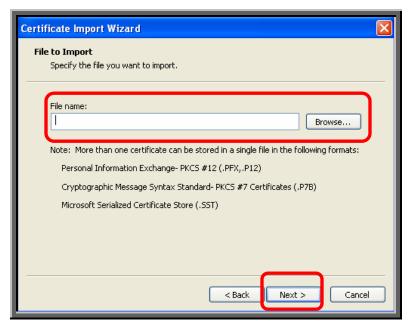
3. From the drop-down list, select Internet Options









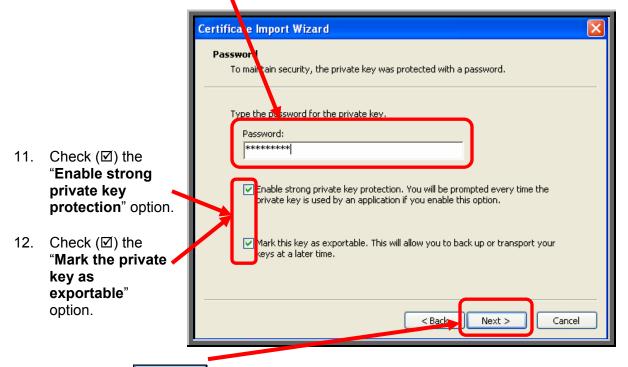


8. Enter the directory where the certificate is stored *or* select the Browse... button to navigate to the file path location of the certificate.

Note: If browsing to locate the certificate, within the Files of Type field (at the bottom of the Open dialogue box), using the drop-down menu, you must select "Personal Information Exchange (*.pfx)" in order to see the certificate file you are looking for.

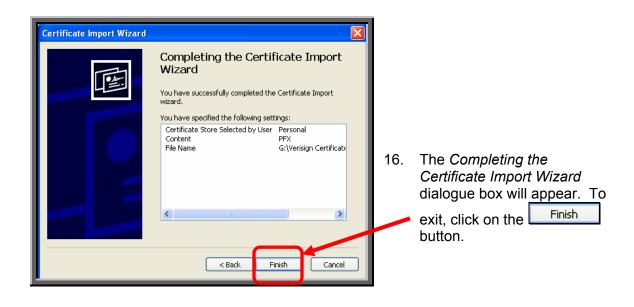
9. After the **File name**: field is populated, click on the Next > button.

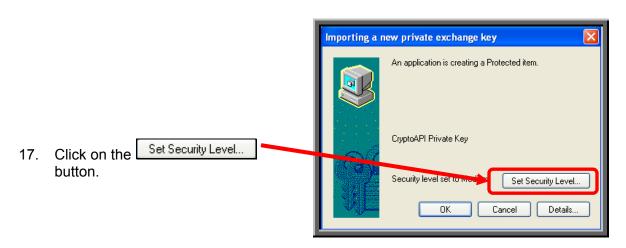
10. Enter the export/import password created during the certificate export process.



13. Click on the Next > button.







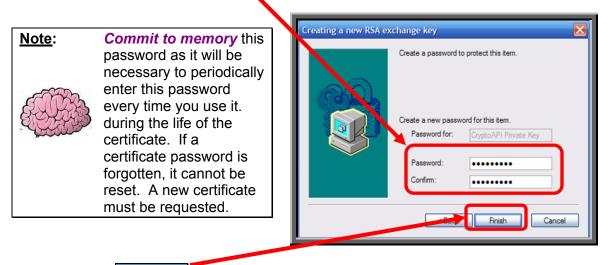
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18. Select the "**High**" () radio button. This will activate password protection for your digital ID certificate.

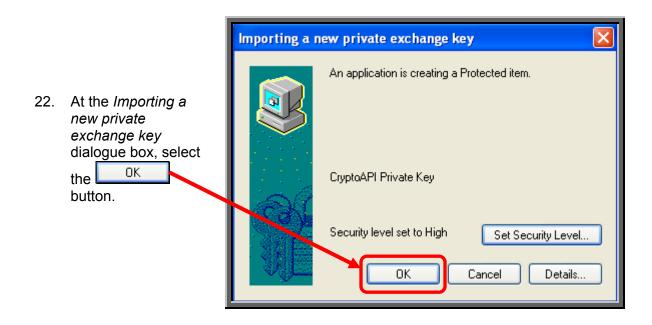


19. Click the Next > button to continue.

20. Enter the **new password twice**.



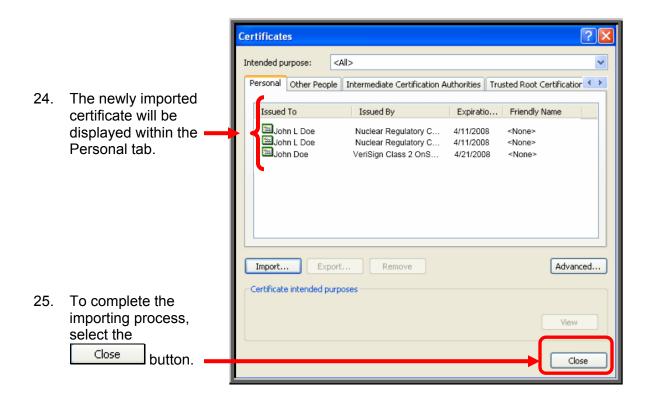
21. Click on the Finish button.



Certificate Import Wizard

23. The message will appear that the import was successful. Select the OK button.

OK.



11. Digital ID Certificate Renewal

The NRC issues digital ID certificates from VeriSign with a one year term. You should receive an email message from the NRC first two weeks before and then again one week before your digital ID certificate is scheduled to expire. These email messages will include a link to a web address for you to request a replacement certificate. When you go to this link the software will verify that your certificate is on your PC and due to be renewed. You will be prompted to provide you digital ID certificates password. This is the password you established when you originally enrolled for you certificate and is required each time you use your certificate.

RENEW vs. ENROLL

You should enroll for a new certificate if:

- Your email address or name has changed since your enrollment last year.
- You have problems renewing your certificate. Sometimes the renewal process doesn't work correctly. Problems are likely to occur if your PC has been upgraded during the last year.

If the RENEW process doesn't work, then just ENROLL for a new certificate using your same name and email address. In this case, you may use the NRC Approval Code of: "RENEWAL". NRC's digital ID certificate administrator will review the records for your name and email address to confirm this is a renewal of a previously approved NRC digital ID certificate.

Enroll for a new digital ID certificate by going to NRC's Digital ID Center, https://onsite.verisign.com/services/USNuclearRegulatoryCommissionADDOCIO/digitalidCe https://onsite.verisign.com/services/USNuclearRegulatoryCommissionADDOCIO/digitalidCe https://onsite.verisign.com/services/USNuclearRegulatoryCommissionADDOCIO/digitalidCe option.

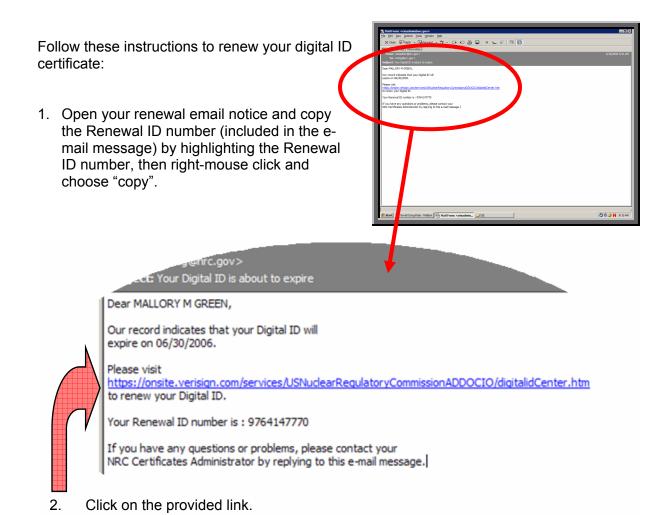
If you choose to ENROLL instead of RENEW because your name or email address has changed, you may also need to notify the associated NRC program area staff to update their access list(s) to reflect this name and/or email address change.

You should receive a "Your Digital ID is about to expire" email 2 weeks prior to and then 1 week prior to your certificate's expiration date.

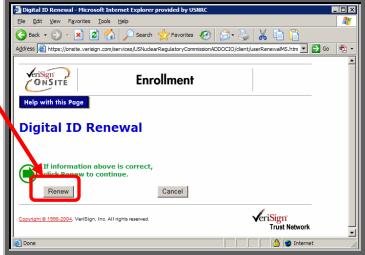
Note: You may also renew your digital ID certificate any time within one month of its expiration. To renew one month ahead of the expiration date, go to the NRC's Digital ID Center located at website:

https://onsite.verisign.com/services/USNuclearRegulatoryCommissionADDOCIO/digi

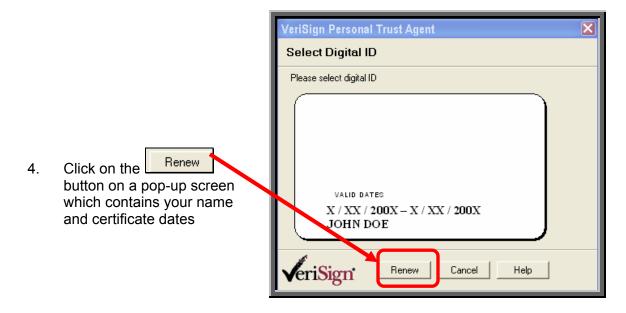
TalidCenter.htm. Choose the option in the Digital ID Center, then follow the instructions beginning at step 3 below.



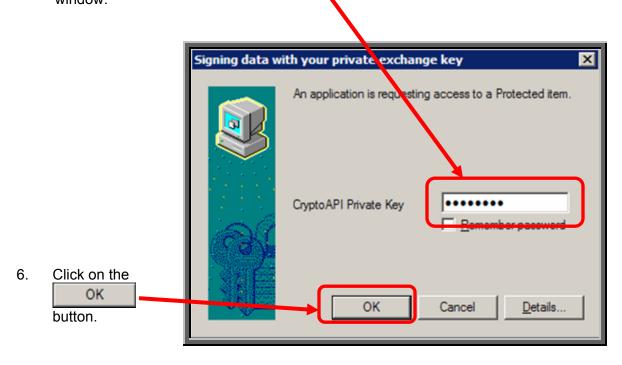
3. Click on the Renew button in the **Enrollment** window.

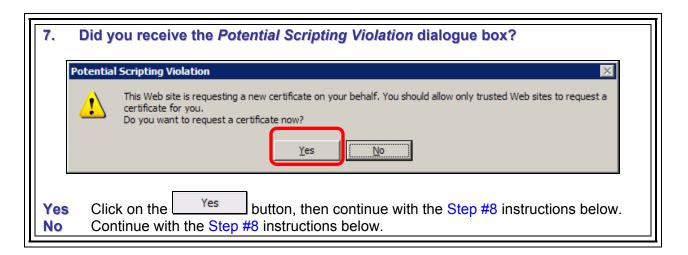


Do not worry when no information is displayed about your existing Digital ID. The reference to "**If information above is correct**" should really be asking you to confirm that you want to do a "Digital ID Renewal". Once you click on the button, the next screen will give you information about the certificate to be renewed.



5. Now you are asked to enter your certificate password. This is the same password you will enter every time you use this certificate since your certificate security is set to high. If your certificate security is not set to high, you will not see this pop-up window.

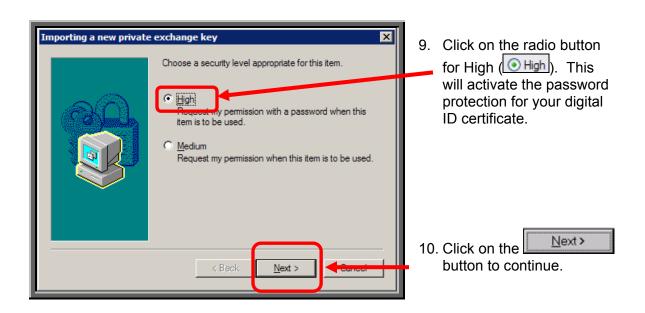




8. Click on the

Set Security Level... button.

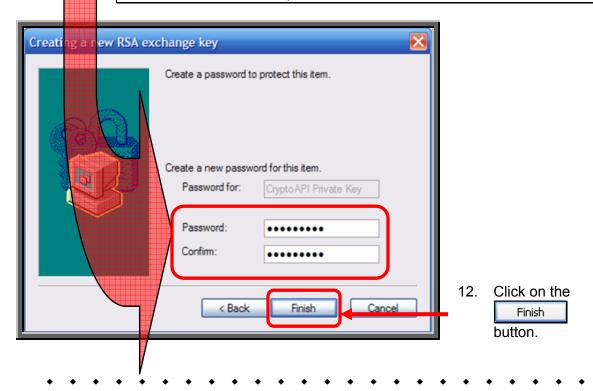


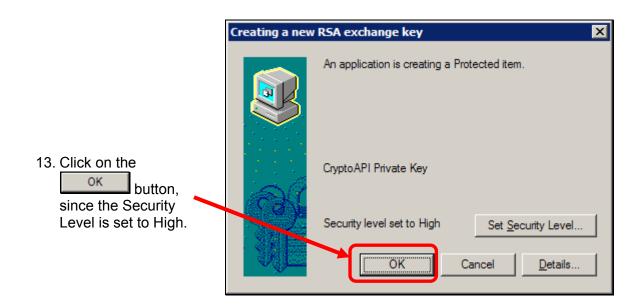


11. Enter the **new password twice**.

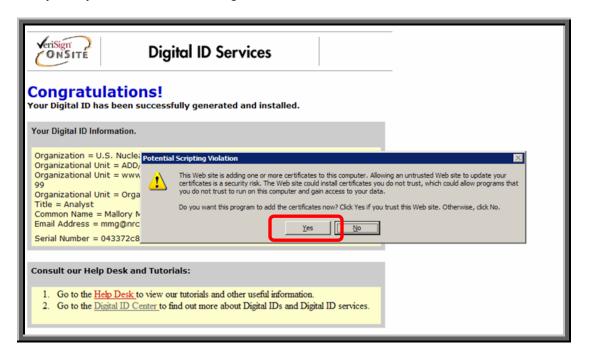
Note:

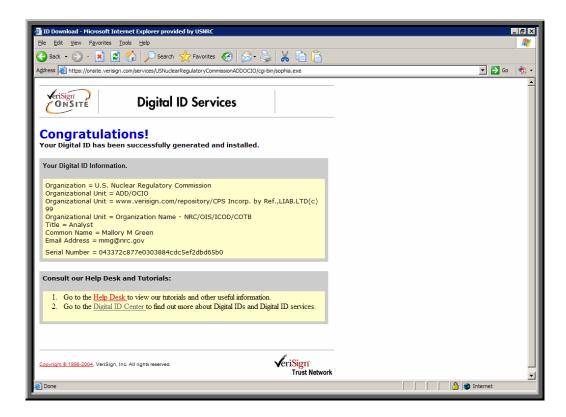
Commit to memory this password as it will be needed every time you use your certificate. If a certificate password is forgotten, it cannot be reset. A new certificate must be requested. Since you are getting a new certificate during a renewal, you must again create a new certificate password. A minimum of 7 characters is recommended for your certificate password.





14. If you get a pop-up "**Potential Scripting Violation**" screen, click on the button to save your certificate to your computer. With Windows XP you are asked to verify that you want to install a digital certificate as shown below.





You will receive a **Congratulations!** screen telling you that your digital ID certificate have been successfully generated and installed.

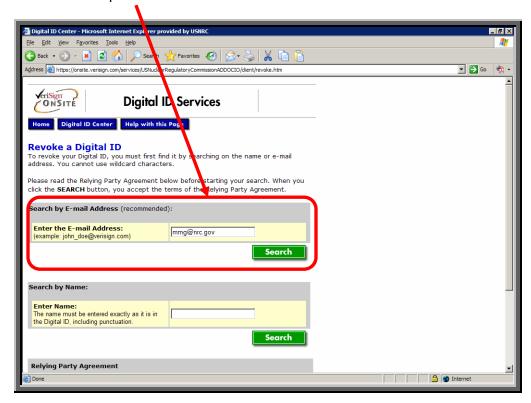
12. Digital ID Certificate Revocations

The certificate owner must remember and use the Challenge Phrase which he or she chose during the certificate enrollment process in order to revoke his or her digital certificate. The steps to revoke your digital ID certificate are:

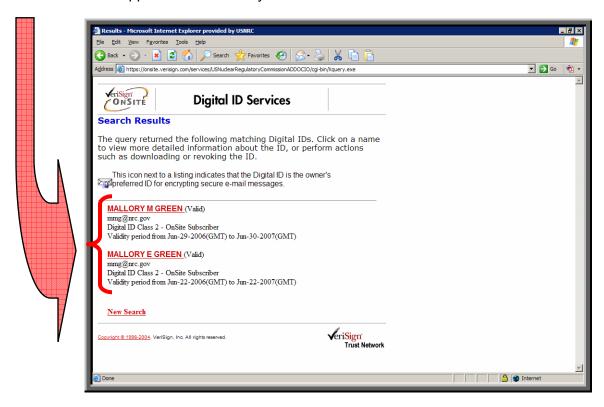
- 1. Click on the "**NRC's Digital ID Center**" link from either the "Electronic Submittals" web page or the "Obtain a Digital ID Certificate" web page.
- 2. Click on the **REVOKE** option



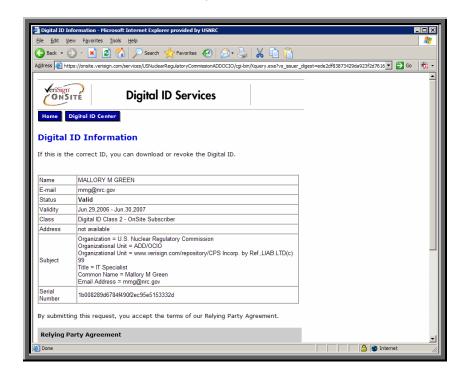
3. **Enter an appropriate email address or name** to search for the certificate you want to revoke and press the button.



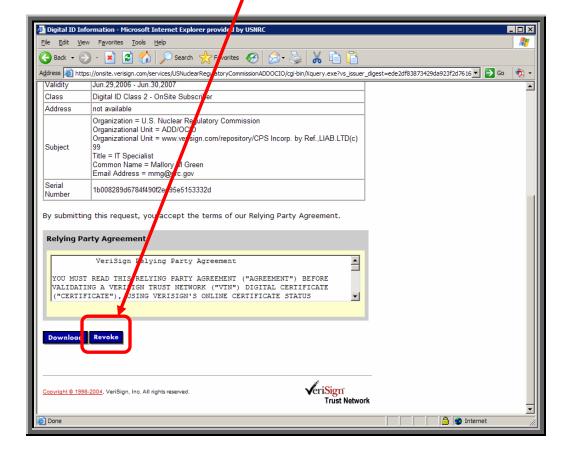
4. Click on the applicable certificate you want to revoke.



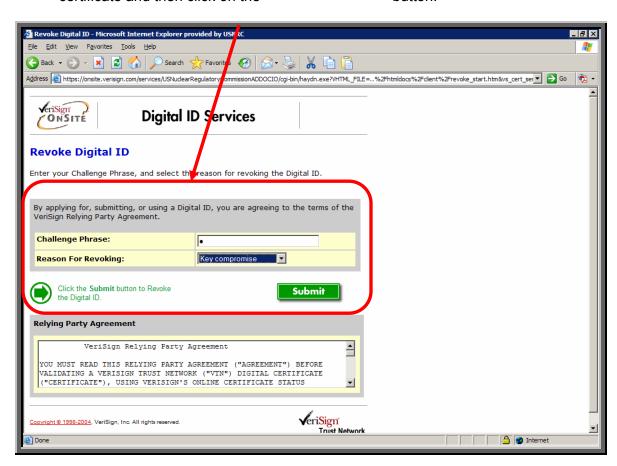
5. Review the data for the certificate you have chosen to revoke.



6. Scroll down and click on the VeriSign button to invalidate your certificate via



7. Enter the Challenge Phrase you entered during enrollment for this digital ID Submit certificate and then click on the button.



ertificates 8. Steps 1 - 7, above, made your certificate invalid, Intended purpose: however, it did not remove the Personal Other People Intermediate Certification Authorities Trusted Root Certification certificate from your PC, Issued To Issued By Expiratio... Friendly Name therefore follow Steps 1-4John L Doe Nuclear Regulatory C... 4/11/2008 within the Section 8, Digital ID Sohn L Doe Nuclear Regulatory C... 4/11/2008 <None> 🔤 John Doe **Certificate Viewing Steps** VeriSign Class 2 QnS... 4/21/2008 ≺None> Instructions. After locating and selecting the certificate, to remove it from your PC, Remove click on the button. Export... Remove Certificate intended purposes < 11>

Advanced...

Close