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"Educating Georgia's Future"

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MEMORANDUM

TO: PCGenesis System Administrators

FROM: Steven Roache, Senior Information Systems Manager

SUBJECT: **Release 20.02.00 – 2020 Fiscal Year-End Updates and Miscellaneous Changes / Installation Instructions**

This document contains the PCGenesis software release overview and installation instructions for *Release 20.02.00*.

PCGenesis supporting documentation is provided at:

http://www.gadoe.org/Technology-Services/PCGenesis/Pages/default.aspx

June, 2020 Payroll Completion Instructions

Install this release after completing the June 2020 payroll(s). Install this release before executing F4 – Calculate Payroll and Update YTD for the July 2020 payroll.

Please import the FY 2021 CPI Salary Schedule into PCGenesis. The 2021 CPI Salary Schedule is available on the PCGenesis documentation web page.

The Fiscal Year End Checklist is available on the PCGenesis documentation web page. Please follow the instructions for completing the fiscal year end closing in the order provided.

For users of the new Enhanced Substitute Pay and Employee Leave System, to begin a new leave plan year, 1) Run the Plan Year Rollover Processing (F3, F4, F2, F11) for ALL Leave Types first, and 2) Run the Advance Leave (F3, F4, F2, F10) second. The Create Original Leave of Absence File (F4, F9, F6) step can be run at any time since the leave data is pulled from the Leave History File.

For users of the Legacy Leave System, to begin a new leave plan year, 1) Create the Original Leave of Absence File (F4, F9, F6) first in order to capture FY 2020 leave totals for CPI reporting, and 2) Run the Automatic Leave Update (F3, F5, F3) second in order to clear the FY 2020 Fiscal Year leave totals.

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A PCGenesis E-mail User List Is Available

The Georgia Department of Education has created an e-mail user list for PCGenesis. PCGenesis users can join the list by sending a blank e-mail to:

join-pcgenesis@list.doe.k12.ga.us

After joining the PCGenesis user list, users can take advantage of discussion forums by sending e-mails to:

pcgenesis@list.doe.k12.ga.us

An e-mail sent to pcgenesis@list.doe.k12.ga.us will broadcast the e-mail to all PCGenesis users enrolled in the group. Those PCGenesis districts and RESAs that join the user list will be able to share ideas, discuss problems, and have many more resources available for gaining insight into PCGenesis operations. Join today!

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Section A: Overview of Release

A1. PCGenesis System Enhancements

A1.1. Windows Server 2008 and 2008_R2 Are No Longer Supported for PCGenesis

This is an important announcement concerning PCGenesis compatibility with the Windows Server operating system. **As of June 30, 2020, PCGenesis will no longer support the Windows Server 2008 and 2008_R2 operating system**, or any earlier operating systems. Please provide this information to your school system's IT staff!

Microsoft no longer provides security updates to Windows Server2008 making it imperative to upgrade the PCG server operating system. Please be aware that the GaDOE has decommissioned all of their 2008_R2 servers as of January 2020 making it nearly impossible to support school systems still running PCGenesis on the 2008 versions of Windows Servers. The GaDOE requires that all PCGenesis systems migrate off **Windows Server 2008 and 2008_R2** immediately.

This announcement is made with the knowledge that the end-of-support date has passed for the **Windows Server 2008/2008 R2** versions. If you have questions, please contact your Microsoft support team.

- Microsoft extended Support for **Windows Server 2008/2008 R2 ended January 14, 2020**

School districts that continue to use unsupported Microsoft software past the end-of-support dates, do so at their own risk with the full knowledge that PCGenesis software does not provide the necessary security enhancements. PCGenesis data is vulnerable unless security updates are provided by Microsoft to ensure system integrity.

PCGenesis will continue to support Windows Server 2012 and 2016 until further notice. **Server 2019 R2** 64 bit and **Windows 10 pro** 64 bit have been successfully installed in many PCGenesis sites and are strongly recommended. The PCGenesis development team has certified that Windows Server 2019 R2 is a supported operating system for the PCGenesis software.

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A1.2. PCGenesis Reorganization Daily Task

Several obsolete reorganization batch process files are being deleted in release 20.02.00. These "old" reorganization processes do not create a **PCGenesisDBX.BAK** backup of the *SQL Server* database, and are no longer supported by the Ga DOE. The following bat files are being deleted:

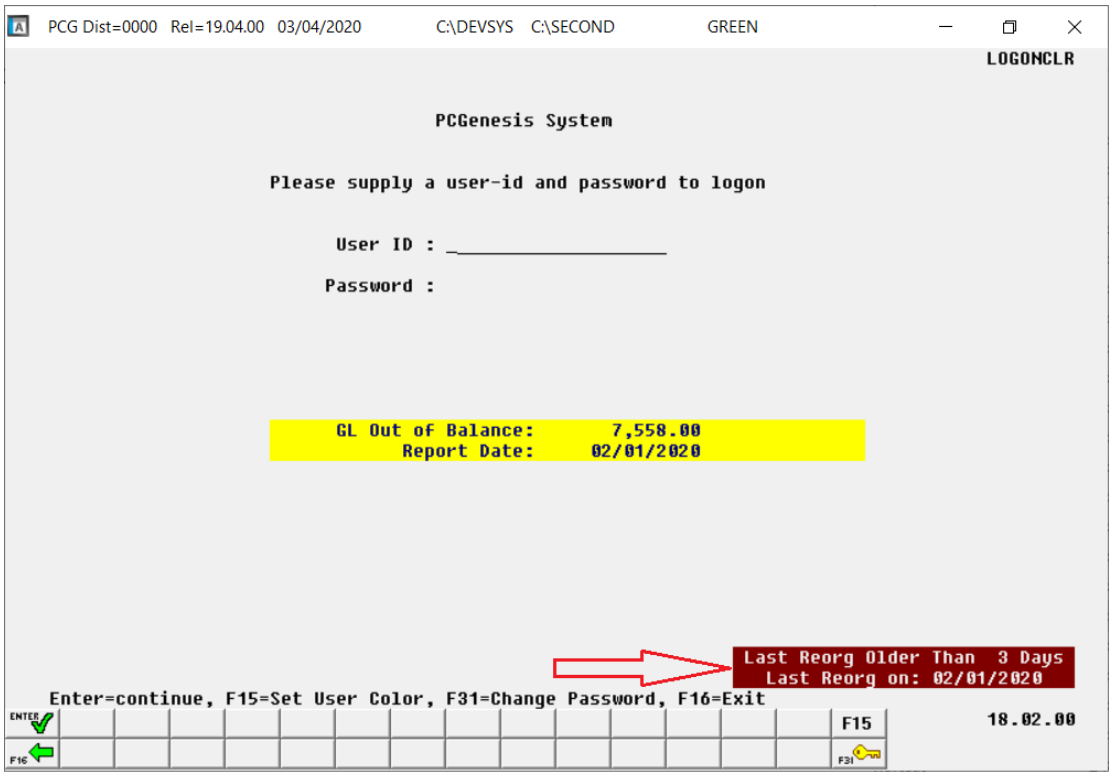
- K:\Backup**reorg.bat**
- K:\Backup**reorgX.bat**

Please inform your IT staff that the above jobs have been deleted, and that these bat files should not be restored to your production system. The above bat files are obsolete. Please refer your IT staff to *Section B: PCGenesis Backup / Reorganization / Restore, Topic 2: How To Schedule the PCGenesis Reorganization Job* at the following Ga DOE website for instructions on setting up the correct reorganization batch job:

https://www.gadoe.org/Technology-Services/PCGenesis/Pages/Technical-System-Operations-Guide.aspx

The correct reorganization task is **K:\Backup\PCGREORG.BAT**. The PCGenesis reorganization task creates a copy of **K:\SECOND** as **K:\SECONDX** and reorganizes all indexed files. The reorganization task also creates a copy of the *SQL Server* PCGenesis database (**PCGenesisDB**) as **PCGenesisDBX.BAK.** The scheduled task creates a recap report which will allow the user to verify that the reorganization process has completed successfully. The recap report will be created in the **K:\UCTPRINT\#SPLPRT** directory with the filename ***REOGnnnn***. If the General Ledger is out of balance, an additional report will be created with the filename ***GBALnnnn***.

If the reorganization batch job has not run successfully for at least three days, the logon screen will display an error message in red, as shown below. If this message appears on the PCGenesis logon screen, inform your IT staff immediately!



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The PCGenesis administrator must ensure that the reorganization task runs successfully every day. Any failure that affects the integrity and availability of PCGenesis data is unacceptable. The PCGenesis reorganization task improves PCGenesis reliability and data integrity by reorganizing all PCGenesis indexed files. The reorganization task also creates a daily restore point that remains on the PCGenesis server for quick access. This restore point often provides the Ga DOE Helpdesk with a quick and easy way to recover from a data issue.

A1.3. Conversion of General Ledger Account Files to PCGenesisDB SQL Server Database Tables

The GaDOE is happy to announce a major upgrade of the PCGenesis. Release 20.02.00 continues the conversion of the PCGenesis data into *SQL Server* database tables. The migration of PCGenesis to a *SQL Server* database is a major undertaking, but a step that it is imperative to take for the longevity of the product.

Today, the PCGenesis data is stored in VISION files which are indexed, flat files, and are proprietary to *MicroFocus*. Nothing other than *MicroFocus* ***ACUCOBOL*** can access the data from VISION files. VISION files represent very old technology. *SQL Server* is a relational database management system (RDBMS). Relational databases are faster, more efficient and more powerful than VISION files. The database updated in this release is named ***PCGenesisDB***.

In release 20.02.00, the file K:\SECOND\FARDATA**ACCOUNT** is converted into the *SQL Server* database table ***FAR.Account***. The ***FAR.Account*** table stores the budget general ledger account codes for the PCGenesis system.

Also in release 19.02.00, the file K:\SECOND\FARDATA**ACCOUNTR** is converted into the *SQL Server* database table ***FAR.AccountR***. The ***FAR.AccountR*** table stores the revenue general ledger account codes for the PCGenesis system.

The file K:\SECOND\FARDATA**ACCOUNTG** is converted into the *SQL Server* database table ***FAR.AccountG***. The ***FAR.AccountG*** table stores the general ledger balance account codes for the PCGenesis system.

Converting PCGenesis to a relational database management system (RDBMS) is a very, very big project. We estimate that it may take several years to convert the software. During that timeframe, major enhancements to PCGenesis will be very limited. However, legislative requirements and ongoing maintenance will always be addressed even during the conversion process.

The PCGenesis database is in the following location for ***Windows Server 2012 or 2016***:

- K:\PCGSQLdb\MSSQL**13**.SQLEXPRESSPCG\MSSQL\DATA\ **PCGenesisDB.mdf**
- K:\PCGSQLdb\MSSQL**13**.SQLEXPRESSPCG\MSSQL\DATA\ **PCGenesisDB_log.ldf**

Why go to all the trouble of converting the old VISION data files? First, updating the data files allows us to implement far better transaction processing. Today, we have problems with data reliability. Today, if a posting process is interrupted because of a power failure, or network hiccup, half of the PCGenesis data files may be updated (for instance the RECEIPT file) and half of the files may not be updated (for instance the AUDIT file). This requires a data repair!!

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Second, we can modernize the PCGenesis data structures and allow access to the data from programs other than COBOL programs. This means that as COBOL programmers retire, the data will be accessible to more modern programming languages such as C#, Java, Crystal Reports, etc., and a new generation of programmers will more easily take over maintenance of the product.

The upgrade to *MicroFocus Extend 10* in September of 2016 came with the ability to execute SQL code from within PCGenesis COBOL programs. This feature is called ***AcuSQL***. Having ***AcuSQL*** bundled in with the *MicroFocus Extend 10* runtime allows the Ga DOE to make use of database technology at no extra cost. Industry standard database support is now included in the *MicroFocus Extend 10* ***ACUCOBOL*** runtime product.

A1.4. Backup of PCGenesis Data

This information must be forwarded to your Technology Representative or you may not have everything you need for a successful restore of your PCGenesis production data.

Going forward, PCGenesis data will be split between files contained in the directory **K:\SECOND** and the new *SQL Server* database table located in **K:\PCGSQLdb**. Therefore, it is very important to backup **K:\PCGSQLdb** and **K:\SECOND** during the nightly backup. One directory cannot be backed up without the other directory, and they must be maintained together. To create a complete backup of the PCGenesis system, the two directories need to be backed up together.

With release 19.04.00, **K:\SECOND** cannot be restored without also restoring the **PCGenesisDB** database. These two entities must be kept in sync, otherwise the *Display Bank Balances* screen (F1, F8, F1) will not have correct data.

The following directories are needed for disaster recovery:

- **K:\SECOND** – PCG payroll & financial data
- **K:\PCGSQLdb** – The *PCGenesisDB* database for the PCGenesis production data, and the *VQueueDB* database for the *VerraDyne* print queue data
- **K:\UCTARCHIVE** – Archived PCGenesis reports in pdf format
- **K:\UCTPRINT** – PCGenesis report files currently in the print queue

Prior to running a backup of the **K:\PCGSQLdb** directory…

- School districts must stop the *VerraDyne Queue Service* and the *SQL Express* services for the backup to successfully run to completion.
- The following commands should be entered in the command prompt for *Windows* or added to the backup bat file to stop the services:

  NET STOP VQueueService

  NET STOP MSSQL$SQLEXPRESSPCG

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After the **K:\PCGSQLdb** directory backup has completed – Start Services

- The following commands should be entered in the command prompt for *Windows* or added to the backup bat file to start the services:

  NET START MSSQL$SQLEXPRESSPCG

  - (Make sure to **wait at least 2 minutes** for **SQLEXPRESSPCG** to start before trying to start **VQueueService)**

  NET START VQueueService

A1.5. Remote Desktop Connection and PCGenesis Security Recommendations

The GA DOE is currently working with a security consultation company to explore how security can be improved for the PCGenesis server and data. Specifically, the GA DOE is exploring how to provide better protection against ransomware and mal-ware from infecting the PCGenesis server. After an initial consultation, the security experts advised that PCGenesis' greatest vulnerability was the way individual workstations map the **K:** drive as ***PCGServer*\PCGenesis$.** Mapping a drive to the PCGenesis server from each individual workstation may provide an access point for ransomware and mal-ware to infect the server by way of an individual user who has inadvertently downloaded a virus.

As an answer to this problem, the security consultants recommend that the PCGenesis application be accessed using a **Remote Desktop Connection.** The recommendation is to utilize **Remote Desktop Connection** instead of mapping the PCGenesis server as a drive on individual workstations. This would add a level of obfuscation and complexity that would help prevent mal-ware from infecting the PCGenesis server.

Therefore, the GA DOE highly recommends **Remote Desktop Connection** as the preferred method for all users accessing PCGenesis. **Remote Desktop Connection** has several advantages in addition to providing better protection for the PCGenesis server and data. It allows the PCGenesis application to run much faster, and because the application will continue to run even if the network connection goes down, data reliability is also improved.

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A2. Payroll System

A2.1. New Teachers Retirement System (TRS) Rates for FY 2021

The TRS Board of Trustees has adopted the following changes to the employer and employee contribution rates effective July 1, 2020.

Fiscal Year 2021	
TRS	
Employer Rate:	**19.06%**
Employee Rate:	**6.00%**

This release automatically updates the TRS rates into PCGenesis.

A2.2. Employees' Retirement System (ERS) Rates for FY 2021

The Old ERS rates and the New ERS rates remain unchanged from Fiscal Year 2020.

Fiscal Year 2021	
Old ERS	
Employer contribution: Pickup: **Total Employer Rate:**	19.91% 05.00 % **24.91%**
Employee Rate:	**1.5%**

Fiscal Year 2021	
New ERS	
Employer Rate:	**24.66%**
Employee Rate:	**1.5%**

This release does not change the ERS rates in PCGenesis.

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A3. Financial Accounting and Reporting (FAR) System

A3.1. ACCOUNT File Converted to Database Table

Release 20.02.00 converts the VISION indexed file *K:\SECOND\FARDATA**ACCOUNT*** into a PCGenesis database table called ***FAR.Account.*** The ***FAR.Account*** table stores the budget general ledger account codes for the PCGenesis system. Any PCGenesis module that references a budget general ledger account utilizes the ***FAR.Account*** table.

With release 20.02.00, **K:\SECOND** must be restored with the **PCGenesisDB** database. These two entities must be kept in sync, otherwise the *Budget Account Master Inquiry* screen (F1, F1, F1) will not display correct budgeted or expensed amounts.

A3.2. ACCOUNTR File Converted to Database Table

Release 20.02.00 converts the VISION indexed file *K:\SECOND\FARDATA**ACCOUNTR*** into a PCGenesis database table called ***FAR.AccountR.*** The ***FAR.AccountR*** table stores the revenue general ledger account codes for the PCGenesis system. Any PCGenesis module that references a revenue general ledger account utilizes the ***FAR.AccountR*** table.

With release 20.02.00, **K:\SECOND** must be restored with the **PCGenesisDB** database. These two entities must be kept in sync, otherwise the *Revenue Account Master Inquiry* screen (F1, F5, F1) will not display correct estimated or revenue amounts.

A3.3. ACCOUNTG File Converted to Database Table

Release 20.02.00 converts the VISION indexed file *K:\SECOND\FARDATA**ACCOUNTG*** into a PCGenesis database table called ***FAR.AccountG.*** The ***FAR.AccountG*** table stores the general ledger balance account codes for the PCGenesis system. Any PCGenesis module that references a general ledger balance account utilizes the ***FAR.AccountG*** table.

Converting the **ACCOUNTG** file to a database table should eliminate the “corrupt file errors” that sometimes occur with **ACCOUNTG** when posting transactions.

With release 20.02.00, **K:\SECOND** must be restored with the **PCGenesisDB** database. These two entities must be kept in sync, otherwise the *General Ledger Account Master Inquiry* screen (F1, F11, F1) will not display correct credit or debit amounts.

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A3.4. Account File Transaction Processing

With release 20.02.00, the PCGenesis system continues to add the logic for transaction processing. In a database management system, a transaction is a single unit of logic or work, sometimes made up of multiple operations. One example is a transfer from one bank account to another: the complete transaction requires subtracting the amount to be transferred from one account and adding that same amount to the other. Transaction processing provides reliable units of work that allow correct recovery from failures and keeps a database consistent even in cases of system failure, when many operations upon a database remain uncompleted. Transaction processing commits all of the operations or none of the operations, keeping the database consistent.

Any system programs that update amount fields in the ***FAR.Account, FAR.AccountR,*** *or* ***FAR.AccountG*** database tables have been updated to support transaction processing. These programs update numerous PCGenesis data tables. As all the files in the PCGenesis system are converted to SQL Server database tables, transaction processing will prevent partial postings of financial data.

Today, if a posting process is interrupted because of a power failure, or network hiccup, half of the PCGenesis data files may be updated (for instance the BANK file) and half of the files may not be updated (for instance the AUDIT file). This requires a data repair!! In the future, this problem will be solved by not "committing" all the data to the database until the entire transaction is complete.

A3.5. Finalize Current Month/Year-End Figures

The *Finalize Current Month/Year-End Figures* (F1, F9, F21) procedure has been enhanced to create a backup/restore point prior to closing the month or fiscal year. A backup copy of PCGenesis data is created in **SECONDY** and **PCGenesisDBY.BAK**. **SECONDY** and **PCGenesisDBY.BAK** can be used as a restore point, if necessary.

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A4. Certified/Classified Personnel Information (CPI) System

A4.1. Upload the 2021 CPI State Salary Schedule

The PCGenesis documentation website provides the *PCGenesis CPI Salary Schedule.csv File – 2021*, in the *Certified/Classified Personnel Information (CPI) System Operations Guide*. The link is shown below:

https://www.gadoe.org/Technology-Services/PCGenesis/Pages/CPI-System-Operations-Guide.aspx

Supporting documentation on the webpage provides the corresponding instructions to import the salary schedule into PCGenesis.

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Section B: Installation Instructions for Release 20.02.00 Software

B1. Perform a PCGenesis Full Backup

Proceed to section *B2. Verify Windows Security Group GENUSERS* in this document if these two conditions are met:

1. The prior evening's full system backup was successful.
   - In addition to its current labeling, also label the prior evening's backup media as **"Data Backup Prior to Release 20.02.00**".
   - Continue to use the backup in the normal backup rotation.
2. No work has been done in PCGenesis since the prior backup.

Otherwise, continue with the instructions in section *B1. Perform a PCGenesis Full Backup* if these two conditions are not met.

Step	Action
1	**Verify all users are logged out of PCGenesis**.
2	Stop the VerraDyne Queue Service (**VQueueService**) and the SQL Express Service (**SQLEXPRESSPCG**) prior to running a full backup of the **K:** PCGenesis disk drive or else the backup will not run to completion. If the *Uspool* background task has not yet been removed from the from "A*ll Users Startup",* close *Uspool* at the server. *Uspool* must be permanently removed and should no longer be running on the server.
3	Perform a **PCG Full Backup** to CD or DVD or USB.
4	When the PCGenesis backup completes, label the backup CD or DVD or USB **"Full System Backup Prior to Release 20.02.00**".
5	**Start the SQL Express Service**: **SQLEXPRESSPCG must be running before starting the release installation.** If *SQL Server* is not running, the **PCGenesisDB** cannot be updated during the release installation. If you run a full backup prior to installing the release and *SQL Server* has been stopped, the following commands can be executed to restart **SQLEXPRESSPCG**. • The following commands should be entered in the command prompt for *Windows* or added to the backup bat file to start the services. • **NET START MSSQL$SQLEXPRESSPCG**
6	Proceed to *B2. Verify Windows Security Group GENUSERS.*

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B2. Verify Windows Security Group GENUSERS

The DOE is continuing the conversion of PCGenesis data tables into a *SQL Server* database in the 20.02.00 release.

Operating System Requirements for the PCGenesis Database

1. Prior to release 19.01.00, the PCGenesis document *New Server Installation Checklist* recommended setting up **GENUSERS** as the Windows Server security group for all PCGenesis users, but this requirement was not enforced. Please refer to *Page 2, Step 4* in the following document:

   http://www.gadoe.org/Technology-Services/PCGenesis/Documents/Tech_A1_New_Server_Install.pdf

   Starting with release 19.01.00, the security user group GENUSERS is now required.

2. Please forward this notice to your IT support team and ask them to verify the setup of **GENUSERS** on your PCGenesis Windows Server. If **GENUSERS** is not the current security group for PCGenesis users, please have the IT staff set up **GENUSERS** as directed in the document referenced above.

If you have any questions or need further assistance, please contact the Technology Management Customer Support Team by using the Help-dticket link on the left side of the MyGaDOE portal menu.

To Login to the MyGaDOE portal please follow this link: https://portal.doe.k12.ga.us/Login.aspx

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B3. Install PCGenesis Release 20.02.00

FROM THE PCGENESIS SERVER

Important Note

The person installing the PCGenesis release must be a member of the system administrator security group on the PCGENESIS server!

Step	Action
1	**NOTE:** The person installing the PCGenesis release must be a member of the system administrator security group on the PCGenesis server. This is required to properly install the ***PCGenesisDB*** database components contained in this release.
2	**Start the SQL Express Service**: **SQLEXPRESSPCG must be running before starting the release installation.** If *SQL Server* is not running, the **PCGenesisDB** cannot be updated during the release installation.
3	**Verify all users are logged out of PCGenesis**.
4	Open **Windows® Explorer**.
5	Navigate to the **K:\INSTAL** directory.
6	Verify **PCGUNZIP.EXE**, **RELINSTL.BAT**, and **INSTLPCG** display. *If PCGUNZIP.EXE and RELINSTL.BAT and INSTLPCG do not display, return* to the *MyGaDOE Web portal, and detach the files from the Web portal again.*
7	***** ALERT ***** After downloading the files we need to make sure they are not blocked, otherwise when we unzip, ALL the files will all be blocked. This is a new security feature of the Windows Server 2012 / 2016 operating system. To check whether the files have been blocked, **right-click** on each of the downloaded files and select **Properties**. If you see a security message at the bottom, as shown below, you will need to click the '**Unblock**' button. This is a very important step! For each of the downloaded files in **K:\INSTAL**, right-click on the filename and select '*Properties*'.

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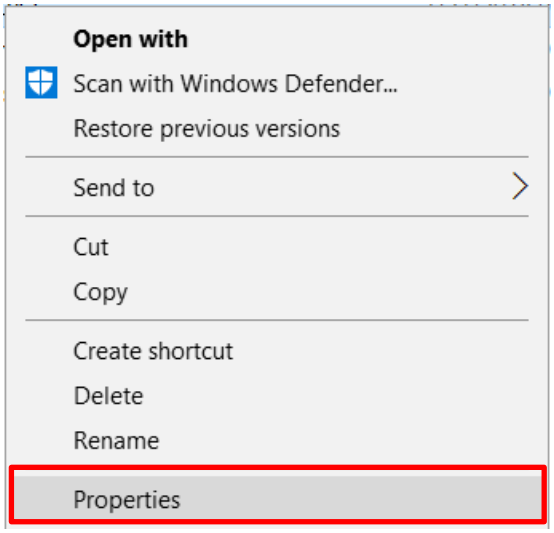
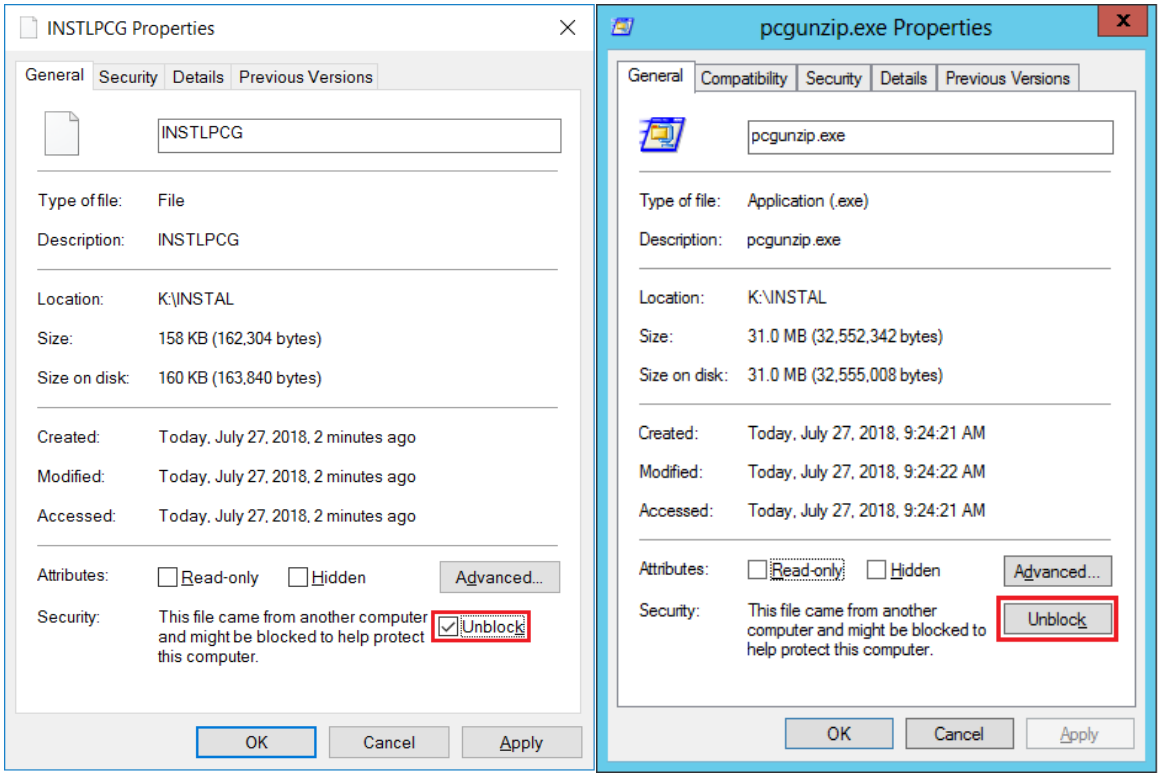
After right-clicking on each file, select the '*Properties*' option:



Depending on the version of the Windows operating system, the following screen displays:



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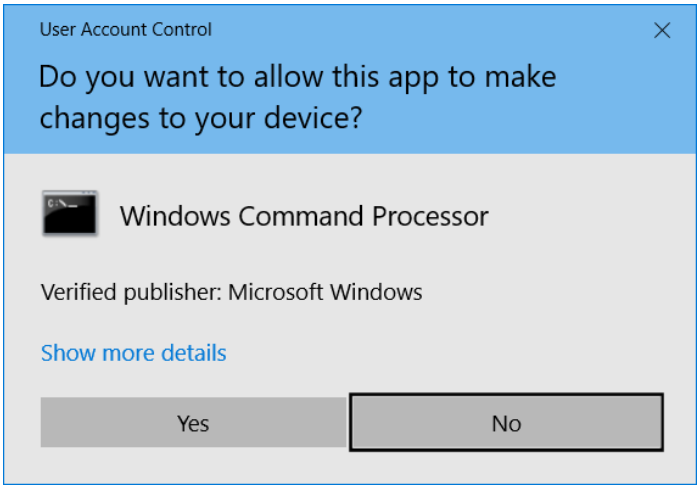
Step	Action
8	Check the bottom of the '*Properties*' dialog box to see if the following **security** warning is displayed: "*This file came from another computer and might be blocked to help protect this computer*." If the option is presented, select Unblock (**Unblock**) or check ☑ the box to the left of **Unblock**. Do this for each of the files in the **K:\INSTAL** directory.
9	Right-click **RELINSTL.BAT** and select ***Run as administrator*** to perform the installation.
10	If the message "*Do you want to allow this app to make changes to your device?*" is displayed, select Yes (**Yes**) to continue. *Next, a release installation status screen will display showing the release steps as they are completed.*



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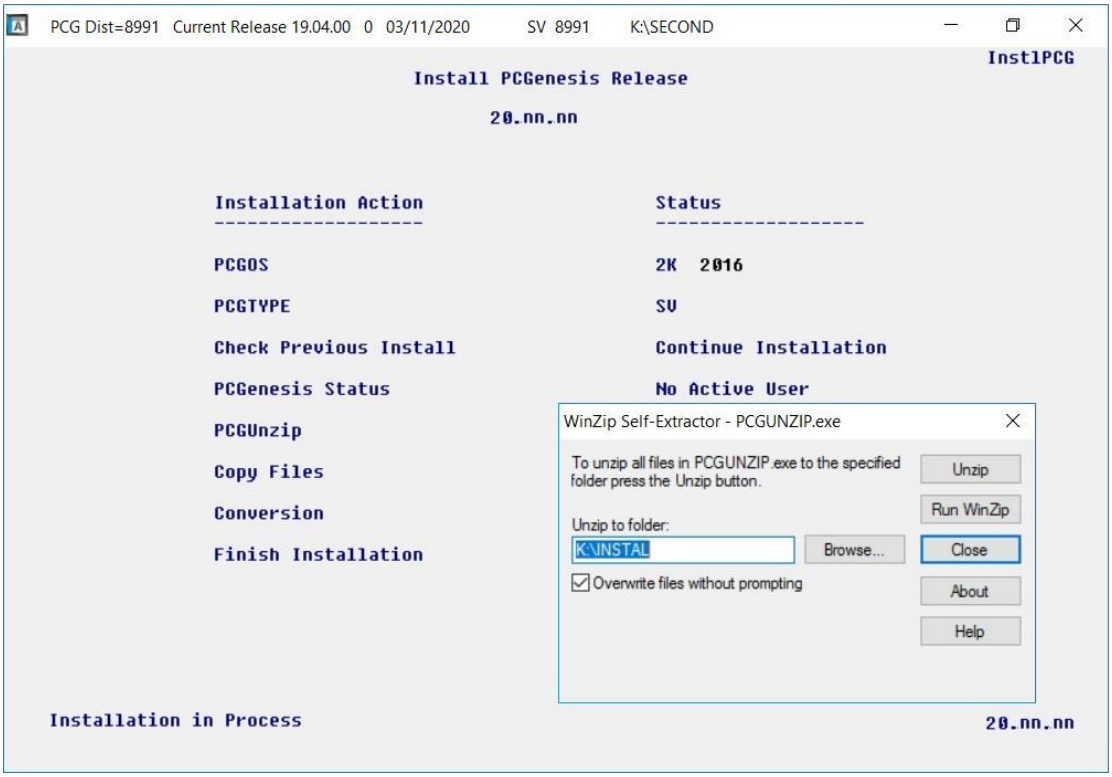
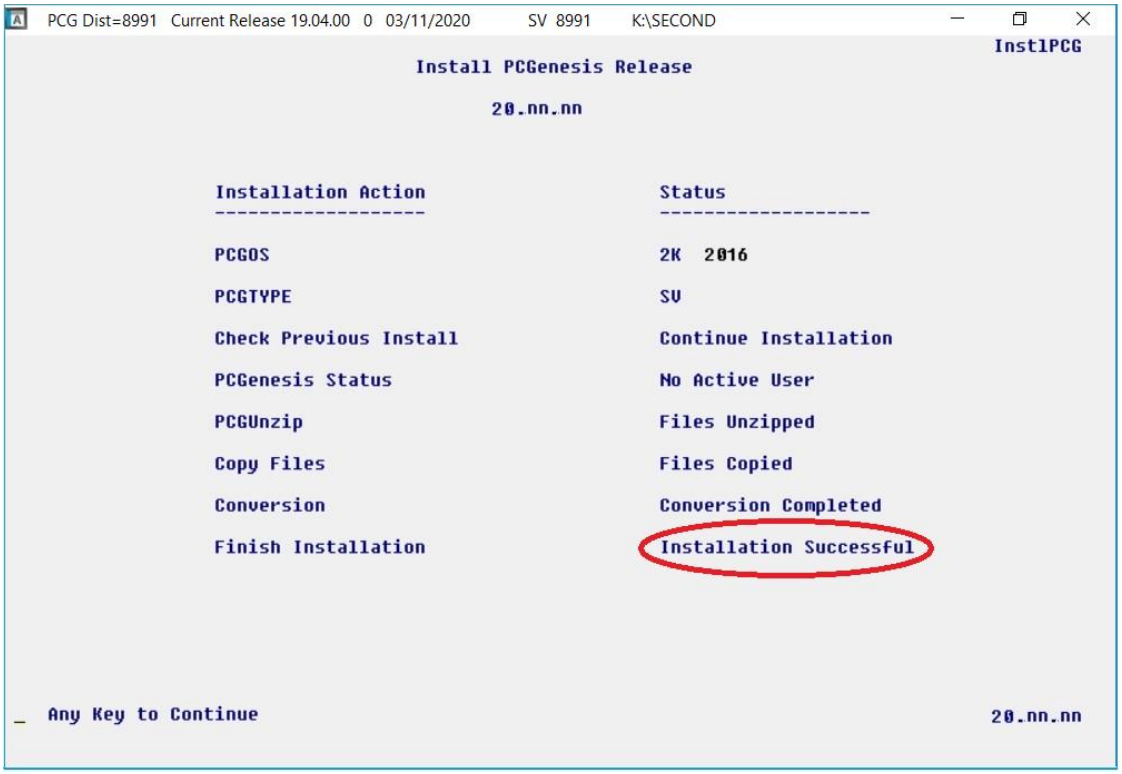
A screen will display showing the progress of the installation:



For PCGenesis *Release 20.02.00* successful installations, the following message displays:



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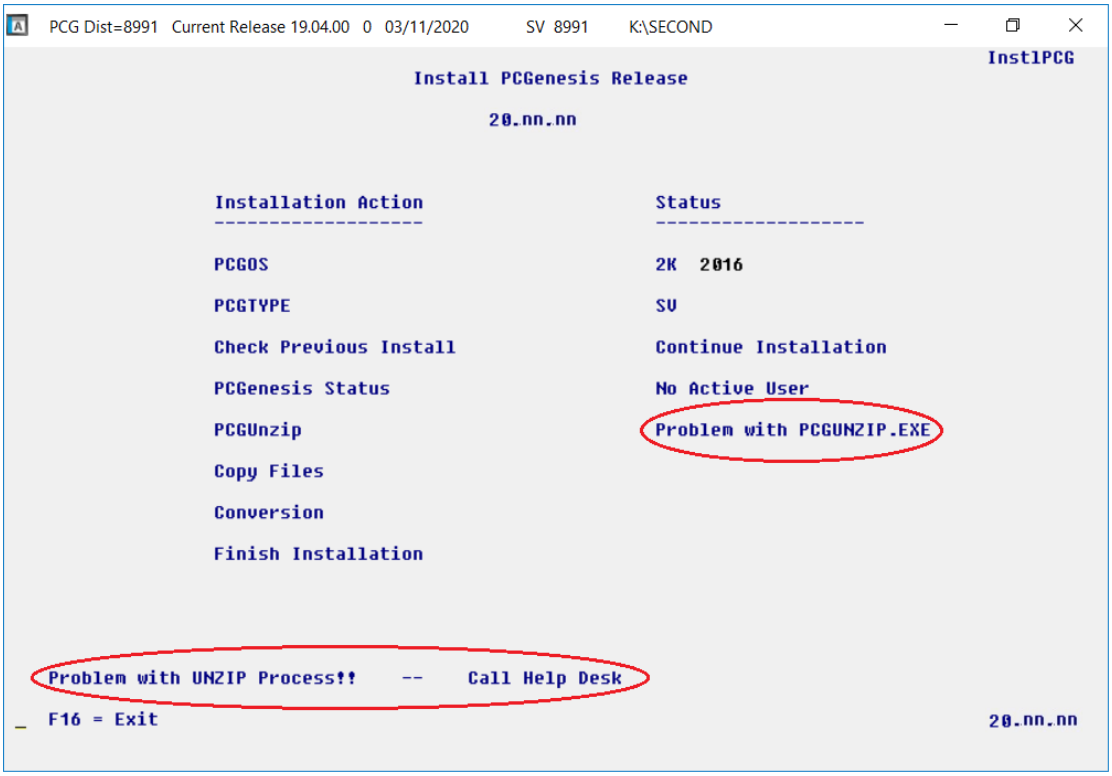
Step	Action
11	Select **Enter** to close the window.
12	**If the installation was successful:** Proceed to *B4. Verify Release 20.02.00 Was Successfully Installed.* **If the installtion was unsuccessful:** Proceed to *Step 13.*

A problem message displays if an error occurred:



Step	Action
13	Select **F16** to close the window.
14	Return to the *MyGaDOE* Web portal, and detach the files again.
15	*Contact the Technology Management Customer Support Center for additional assistance if needed. A description of the error will display with instructions to call the Help Desk.*

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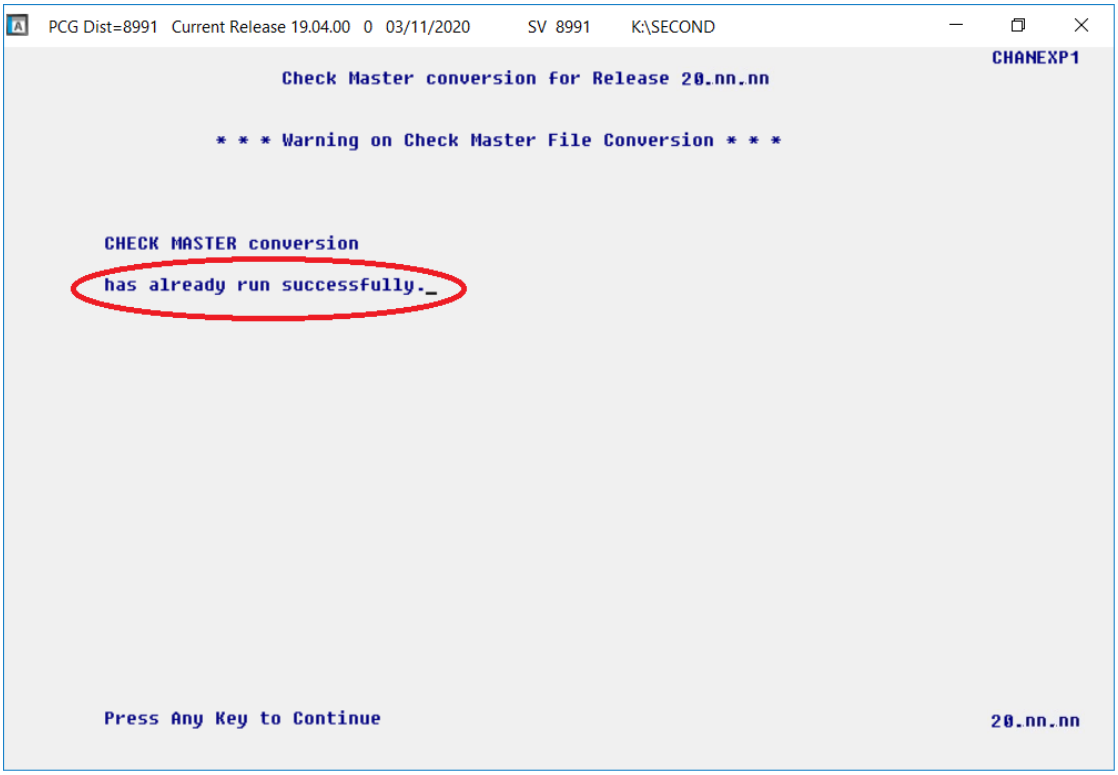
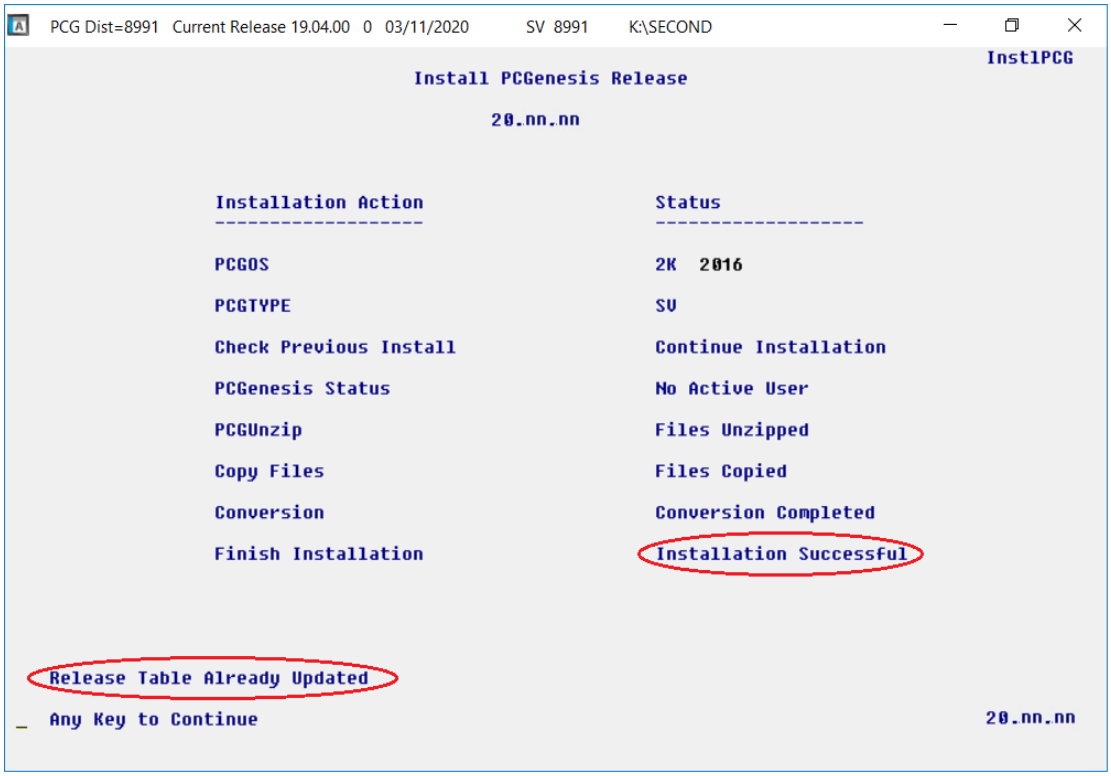
A warning message will display if the release installation is repeated:



A warning message will display if the release installation is repeated, but in this case, the installation is considered successful. In this instance, select any key to continue:



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Step	Action
16	Proceed to *B4. Verify Release 20.02.00 Was Successfully Installed.*

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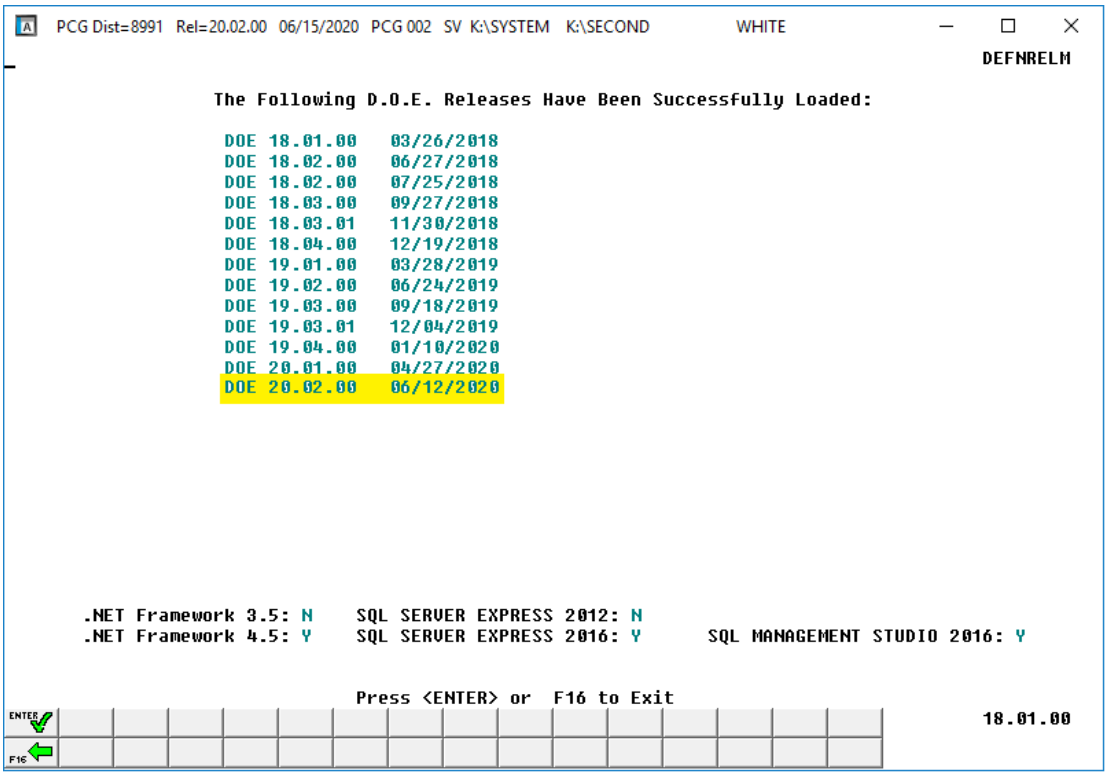
B4. Verify Release 20.02.00 Was Successfully Installed

Step	Action
1	**Log into PCGenesis**.
2	From the *Business Applications Master Menu*, select 30 (**F30** - System Utilities).
3	From the *System Utilities Menu*, select 17 (**F17 -** Display Current Release Number).

The following screen displays:



Step	Action
4	Verify **Release 20.02.00** displays. *The number of releases and the release installation date displayed may not correspond with the preceding screenshot example. This is acceptable as long as **DOE 20.02.00** displays.* *If Release 20.02.00 does not display, contact the* Technology Management Customer Support Center *for assistance.*
5	Select ENTER (**Enter**).
6	Log off the PCGenesis server.
7	Verify users remain logged out of PCGenesis.

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B5. Perform a PCGenesis Full Backup After Release 20.02.00 is Installed

Step	Action
1	**Verify all users are logged out of PCGenesis**.
2	Stop the VerraDyne Queue Service (**VQueueService**) and the SQL Express Service (**SQLEXPRESSPCG**) prior to running a full backup of the **K:** PCGenesis disk drive or else the backup will not run to completion. If the *Uspool* background task has not yet been removed from the from "A*ll Users Startup",* close *Uspool* at the server. *Uspool* must be permanently removed and should no longer be running on the server.
3	Perform a **PCG Full Backup** to CD or DVD or USB.
4	When the PCGenesis backup completes, label the backup CD or DVD or USB **"Full System Backup After Release 20.02.00**".
5	Restart the SQL Express Service (**SQLEXPRESSPCG**). After waiting at least two minutes, restart the **VQueueService** in (**View local services**).

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Section C: After PCGenesis Release 20.02.00 Has Been Installed

C1. Verify Contents of the End-of-May Backup

This step is very, very important! The PCGenesis development team wants to ensure that all school districts are creating a backup of the PCGenesis data, including the contents of the **PCGSQLdb** database directories as well as the **SECOND** data. Our concern is that school districts do not have a good backup of the database data, in which case you may not realize that you have an incomplete backup and *a critical problem*. School districts are under increasing pressure from hackers and malware attacks and therefore, it is nothing short of imperative that you can recover your PCGenesis data in case of an attack, or other data center catastrophe. To that end, please follow the steps below.

Step	Action
1	**Verify you have a weekly full backup of K: that you retain for at least 4 weeks.** Include a **full backup** of ***K:*.**** in the site's standard server backup process ▸ Recommend **full backup** of ***K:*.**** every night if possible • Minimum of one full backup of ***K:*.**** every week **(Required)** • Retain at least 4 weeks of ***K:*.**** **(Required)**
2	**Verify you have a daily backup of *K:\SECOND*.** and *K:\PCGSQLdb*.* that you retain for at least 4 weeks** Daily backup of ***K:\SECOND*.**** and ***K:\PCGSQLdb*.**** **(Required)** • Use of CD, DVD, or USB is recommended • Nightly backup following each work day • Nightly media may remain under control of PCG administrator • Proper security and offsite storage measures **(Required)** • Retain daily backups of ***K:\SECOND*.**** and ***K:\PCGSQLdb*.**** for 4 weeks **(Required)** • Retain one daily backup each month of K:\SECOND*.* and K:\PCGSQLdb*.* for at least one year **(Required)**
3	Request your IT representative obtain the May 31st backup of PCGenesis data. Obtain either the weekly **full backup of K:** or the **daily backup of K:\SECOND*.*** and **K:\PCGSQLdb*.***, but make sure it is the end-of-May 2020 backup.

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Step	Action
4	Verify that this file exists on the May 31st, 2020 backup: For Windows Server 2008: K:\PCGSQLdb\MSSQL**11**.SQLEXPRESSPCG\MSSQL\DATA**PCGenesisDB.mdf** For Windows Server 2012, 2016, or 2019: K:\PCGSQLdb\MSSQL**13**.SQLEXPRESSPCG\MSSQL\DATA**PCGenesisDB.mdf** **If this file does not exist on your backup media, you will not be able to recover all your PCGenesis data!!!**
5	Verify that this directory exists on the May 31st, 2020 backup, including all subdirectories and files within this directory: K:\SECOND
6	If you do not have both **PCGenesisDB.mdf** and **K:\SECOND**, you will not be able to recover from a data center catastrophe! Make sure your IT team immediately corrects this situation. Follow this link to the *PCGenesis Technical System Operations Guide*: https://www.gadoe.org/Technology-Services/PCGenesis/Pages/Technical-System-Operations-Guide.aspx Review the information in *Section B: PCGenesis Backup / Reorganization / Restore*.
7	If your district's backup procedures needed to be remediated, create a new backup by following the instructions in *Step 6* and then start this procedure over again at *Step 1* to verify the backup.

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Appendix A. Summary of PCGenesis Database Components

SQL Server Databases and Tables for PCGenesis System			
1	**PCGenesisDB** - PCGenesis financial and payroll production data.		
		Table Name	**Purpose**
	1.1	**Conversion_LOG**	Conversion Log indicates successful or unsuccessful conversion of a VISION file to a SQL Server table.
	1.2	**Conversion_LOG_Detail**	Conversion Log Detail indicates the total number of rows imported for each database table.
	1.3	**Conversion_LOG_Error**	Conversion Error Log indicates any errors encountered during the conversion of a VISION file to a SQL Server table.
	1.4	**FAR.Account** *(New with this release)*	Stores the budget general ledger account codes for the PCGenesis system.
	1.5	**FAR.AccountR** *(New with this release)*	Stores the revenue general ledger account codes for the PCGenesis system.
	1.6	**FAR.AccountG** *(New with this release)*	Stores the general ledger balance account codes for the PCGenesis system.
	1.7	**FAR.Bank_File**	Contains the bank codes for the PCGenesis system.
	1.8	**FAR.Facility**	Contains the facility and building records for purchase order processing.
	1.9	**FAR.Name_01_Fiscal_Year**	Contains the two-digit year description of the account number.
	1.10	**FAR.Name_02_Fund**	Contains the 3-digit fund description of the account number.
	1.11	**FAR.Name_03_FY_flag**	Contains the 1-digit fiscal year description of the account number. (Not used.)
	1.12	**FAR.Name_04_Program**	Contains the 4-digit program code description of the account number.
	1.13	**FAR.Name_05_Function**	Contains the 4-digit function code of the account number, for expense accounts.
	1.14	**FAR.Name_06_Object**	Contains the 5-digit object code description of the account number.
	1.15	**FAR.Name_07_Fac_Bldg**	Contains the 5-digit facility/building code description of the account number.

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SQL Server Databases and Tables for PCGenesis System - *continued*			
	PCGenesisDB - PCGenesis financial and payroll production data, continued.		
		Table Name	**Purpose**
	1.16	**FAR.Name_08_Additional**	Contains the 6-digit additional code description of the account number.
	1.17	**FAR.Name_09_Rev_Srce**	Contains the 4-digit source code description of the account number, for revenue accounts.
	1.18	**FAR.Name_10_BLNC_SHEET**	Contains the 4-digit balance sheet code description of the account number, for GL accounts.
	1.19	**FAR.Revenue_Source**	Contains the Revenue Source records for the financial system revenue subsystem.
	1.20	**T_lookup.GA_County**	Contains the County codes for Georgia counties.
2	**PCG_Master** - PCGenesis backup and restore logs.		
		Table Name	**Purpose**
	2.1	**PCG_Backup_LOG**	Backup log indicates successful or unsuccessful completion of a PCGenesis backup operation.
	2.2	**PCG_Backup_LOG_Message**	The system messages associated with the backup operation.
	2.3	**PCG_Information**	Stores the location of the SQL Server database backup directory.
	2.4	**PCG_Restore_LOG**	Restore log indicates successful or unsuccessful completion of a PCGenesis restore operation.
	2.5	**PCG_Restore_LOG_Message**	The system messages associated with the restore operation.
	2.6	**PCG_Runtime_Errors**	Stores PCGenesis runtime errors that occur during a backup or restore operation.

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SQL Server Databases and Tables for PCGenesis System - *continued*			
3	**PCG_Q_DB** The **PCG_Q_DB** database is a backup of PAYDATA that is made just before Calculate Payroll & Update YTD (Final) (F4) or is a backup of FARDATA that is made just before updating budget files with vendor check information (F5).		
		Table Name	**Purpose**
	3.1	**PAY.*tablename***	**PAYDATAQ** and **PCG_Q_DB** database tables: The **PAYDATAQ** directory (inside of the **SECOND** directory) is a backup of **PAYDATA** that is made just before *Calculate Payroll & Update YTD (Final)* (F4). • Restore from **PAYDATAQ** if a problem occurs during check printing.
	3.2	**FAR.*tablename***	**FARDATAQ** and **PCG_Q_DB** database tables: The **FARDATAQ** directory (inside of the **SECOND** directory) is a backup of **FARDATA** that is made just before updating budget files with vendor check information (F5). • Restore from **FARDATAQ** if a problem occurs with posting to budget files. • Also restore from **FARDATAQ** if a problem occurs in financial data after posting but before the nightly backup is processed. • **FARDATAQ** should not be restored if any interaction from payroll has occurred (posting payroll or processing an earnings history record gross data transfer). When both financial and payroll records are affected, all of **SECOND** should be restored.
4	**PCG_D_DB** The **PCG_D_DB** database is a backup of PAYDATA that is made after printing payroll checks, but just before printing payroll direct deposits (F2, F3, F5).		
		Table Name	**Purpose**
	4.1	**PAY.*tablename***	**PAYDATAD** and **PCG_D_DB** database tables: The **PAYDATAD** directory (inside of the **SECOND** directory) is a backup of **PAYDATA** that is made just after checks print (F5) and before direct deposits print. • Restore from **PAYDATAD** if a problem occurs during or after printing direct deposits but before posting to payroll earnings history (F13).

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SQL Server Databases and Tables for PCGenesis System - *continued*			
5	**PCG_SANDBOX** The **PCG_SANDBOX** database is a backup of SANDBOX that is made just before creating the budget SANDBOX (F5, F1).		
		Table Name	**Purpose**
	5.1	**SAND.*tablename***	**SANDBOXQ** and **PCG_SANDBOX** database tables: The **SANDBOXQ** directory (inside of the **SECOND** directory) is a backup of **SANDBOX** that is made just before a new *Budget SANDBOX* is created (F5, F1). • Restore from **SANDBOXQ** if it is desired to return to a prior iteration of the budget forecasting parameters.
6	**VQueueDB** The **VQueueDB** database contains the *VerraDyne Print Manager* associated tables.		

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