DEER2011 Issues & FAQ

The following section contains select questions and issues regarding the DEER2011 Update. Check here to see if your questions may already be answered. Have a question you don't see here? Send it to **READIhelp@gmail.com**.

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FAQ

Q: Regarding energy impacts, what does the normalizing unit "Area-1kR" mean, and why are the common units for commercial insulation measures different from the residential insulation measures? *(20 Oct 2012)*

A: The "Normalizing Units" table in READI (Support Tables tab, Energy Impacts group) documents the common, or "normalizing" units used to report the energy impacts. As pointed out, commercial insulation measures use "Area-1kR", or 1000 square feet of roof area while residential insulation measures use "Area-ft2".

from "Normalizing Units" table in READI:

Code	Description	Comment	Status
Area-ft2	square feet of technology	refers to the area of the technology, not the associated building area e.g. shell measures (windows, wall insulation, floor insulation)	Standard
Area-1kR	1,000 sqft roof	Legacy: used in DEER2005 only	Legacy

"Area-ft2" is the standard DEER2011 normalizing unit that applies to the area of the technology. DEER2005 used more measure-specific codes for the normalizing units, which could require new normalizing unit codes and descriptions of each new technology. The commercial insulation measures are imported from the DEER2005 results, and that's why they use the different normalizing code.

Q: Is there an update to the November 2011 CSV files that included all energy impacts? (see 5-Dec-2011 question) *(16 Aug 2012)*

A: A single CSV file that contains all of the energy impacts has been created from the current DEER2011 database. Measures with a status of "Standard" or "Component" are included. The file contains approximately 900,000 lines of data and is compatible with Excel 2010 and later. The file can also be edited as a text file. The 554 megabyte file has been compressed into a **12.5 megabyte self-extracting EXE file**.

Q: Still can't connect to READI! Are there any known issues?*(1 Mar 2012)*

A: A new version of READI is available that re-establishes the SSH connectivity. Please visit the "DEER2011 for 13-14" page for the program update link and description of changes. When updating READI, be sure to use the new program file and the new keys. While you don't need to "uninstall" the program, it may be best to delete the older program file and keys. Also, the IP address that the DEER database server URL ("deeresources.com") resolves to has changed with this update. If your network security settings are only allowing READI to connect to a specific IP address, that address will need to be updated to: "23.21.178.114".

Q: Trying to connect to READI, we keep on getting the message "Can not connect to data base". Is there any scheduled maintenance or service outage on your end? *(28 Feb 2012)*

A: We did experience an "unscheduled maintenance requirement" with our DEER database server which kept it offline from the 25th through the 27th of this month, but it is back up and running now. Status information was posted on the DEER FAQ page, but the next version of READI will check for status messages on an alternative site and display them if there are issues with the database server.

If you cannot connect to the database, but were able to before this incident, there may be an issue with your security settings and the new IP address. The URL hosting the database is still "deeresources.net", but that address now resolves to "23.21.178.114". We have upgraded the system such that changes to the hardware or a relocation of the machine will not change the IP address in the future.

Q: I've been having problems installing READI. I have downloaded the .exe file. When I run it, it says I'm not connected to the internet and therefore can't access port 22. However, I do have internet access. How do I go about on fixing this? *(23 Feb 2012)*

A: The most likely problem is that your personal or corporate firewall is not allowing the connection to the remote database as a security issue. READI can use either port 22, which is the default, or port 5432. Most of the utilities in California that use the program from within the workplace had to ask their IT departments to change the network security settings to allow the program to connect. On the other hand, most people using the program from their own network (i.e. at home), don't have this issue. Most corporate internet security systems work on a policy of allowing connections only if they are specifically approved, whereas most home networks work on a policy of allowing connections so long as the connection isn't banned.

Another possibility is that your computer's security software, such as Norton or McAfee, is not allowing the connection. You can configure these programs to allow READI internet access, but if your computer did not prompt you to allow the connection when you first started READI, then you'll need to dig into your specific security software's settings.

Q: The column headings in the compiled energy impact data files contained in "Exhibit B" differ from the column headings for individual measures as accessed through READI. Which are correct?*(27 Jan 2012)*

A: The column headings for the energy impact tables accessed via READI are correct. The order of fields retrieved by READI differ based on the measure type (Scaled, ScaledDirectIE, etc.). The columns should have been re-ordered before being written to the larger archive to make them consistent with the single column heading written to the archive.

Q: The hours of operation in the workbook posted 8 December 2011 still has 796 for the Res CFL hours of operation. Shouldn't this be 541 hours? Are the new Coincident Demand Factors going to be added to the workbook?*(13 Dec 2011)*

A: The lighting impact values in the workbook are there to demonstrate how the interactive effects are calculated. The DEER team evaluated how the interactive effects would change with the new lighting impacts values, but since the profile is so similar, the interactive effects do not change significantly. For the DEER2011 update, the residential lighting interactive effects have not changed. The workbook referenced in the question has been updated to include the new residential lighting energy impact values.

Q: How are the lighting energy impacts calculated, the residential indoor 18W screw-in CFL lamp, for example? *(7 Dec 2011)*

A: All DEER indoor lighting measures are defined with an Energy Impact Type = *ScaledDirectIE*. This indicates that energy impacts are scaled (using a "scale-able" energy impact record and a scale factor) and that HVAC interactive effects factors are applied to the direct energy impacts.

We'll asssume the IOU is SDG&E, the location is CZ07, the building vintage is new and the building type is a single-family for this example. For the residential indoor 18W screw-in CFL lamp (*MeasureID = Res-lltg-CFL-Scrw-NonRefl-18W*), the measure is 18 Watts and the base case is described as having a "Wattage ratio = 3.47". The base case therefore has 3.47 x 18 Watts, or 62.5 Watts, as described in the technology description for the pre-existing case. The scale value in this case is 62.5 - 18, or 44.5 Watts. This value is displayed in the measure definition as the "Above Pre-existing Scale Value".

The hours of use and coincident demand factor for this measure, as described in the DEER2011 documentation on page A-1-10, are 541 hours per year and 0.047 (for CZ07), respectively. The interactive effects factors in this case are 1.0278 kWh/kWh, 1.1417 kW/kW and -0.01855 therm/kWh (from Res-InLtg-CFL interactive effects table).

- The **direct energy impact** is calculated as dWatts x hours per year * (1 kW / 1000W), or 44.5 x 541 / 1000, or **24.05 kWh/year.**
- The **direct demand impact** is determined as dWatts * CDF, or 44.5 x 0.047, or **2.1 Watts.**
- The **whole-building energy impact** is 24.05 * 1.0278, or **24.72 kWh/yr.**
- The **whole-building demand impact** is 2.1 * 1.1417, or **2.4 Watts.**
- The **whole-building gas impact** (take-back) is 24.05 x -0.01855, or **-0.4462 therm/yr.**

Q: How can I convert the new format for energy impacts back into the DEER2008 format? *(6 Dec 2011)*

A: To update a table based on the DEER2008 energy impacts table with new values and measure definitions, one will need to link to a number of tables in the DEER2011 database structure. It is a good idea to study the new format before attempting to convert the new results back to the older version. The significant changes include:

- Measure definitions are described separately from their associated energy impacts. In DEER2005, measure descriptions and parameters were included in every energy impact record. Measure definitions and Energy Impacts are now linked via the EnergyImpactID in the Measure definition table.
- Above customer-average and above-code energy impacts for the same measure are now combined into one record, with separate fields for the two sets of results. With the DEER2008 database, one had to find the “above-code” and “customer average” impacts in different records based on a similarity in the MeasureID.
- The tags included in the 2008 MeasureID which identified the building type, location and building vintage are now separate fields in the Energy Impacts table. These fields were also available in the 2008 database as verbose descriptions, they are now short descriptive codes that can be expanded via links to the applicability tables.
- DEER2011 energy impacts are always reported as “per unit” of the associated normalizing units. In the DEER2008 database, the impacts were stored as absolute values (not normalized), though the impacts could be exported as normalized values.

Though ***the same data are being presented***, the format has changed in some significant ways. The new format supports a much better framework for connecting claims data to frozen ex-ante data (such as energy impacts, NTG values, etc.) as described in the documentation.

Q: Is there a comparison of DEER2008 energy impacts with the updated DEER2011 energy impacts? *(6 Dec 2011)*

A: There are a number of comparisons made in the document “Nov2011_DEER-v400_MeasureDatabaseUpdate-2011-11-19_AppendixA-1.pdf” available from the “DEER2011 for 13-14” web page. A larger set of comparisons can be found in the workbook **“DEERdb-Compare_v2.05_to_v4.00.xls”**.

Q: Where can I find documentation for the fields in the Measure and Energy Impact tables in READI? *(6 Dec 2011)*

A: Click on the link “DEER2011 Database format” on the DEER2011 for 13-14 page of DEEResources.com; you will find an archive file with a workbook (“SPTdata_ format-v0.97.xls”) that documents the fields in the database tables.

Q: How can I get the latest simulation software associated with this version of DEER? *(5 Dec 2011)*

A: There is a download available on the "**DEER2011 for 13-14**" page called “Exhibit B” (located in the "Regulatory Information" section) that includes the lastest "MASControl" software. In the large archive file, browse to the "DataBaseDownload" directory and then to the "SimulationTools" directory. Install the software via the MSI file. Updated MASControl instructions have be found **here**.

Q: How can I download all of the energy impacts using READI? *(5 Dec 2011)*

A: Visit the "Save Tables" help screen to read about downloading energy impacts for a single measure or for an entire measure group.

Also, there is a download available on the DEER2011 Update page called “Exhibit B” (located in the "Regulatory Information" section) that includes all of the Energy Impacts in CSV format. There are five archived CSV files inside of this larger archive:

- DEER2011_EnergyImpacts_IOU-PGE-30Nov2011.zip,
- DEER2011_EnergyImpacts_IOU-SCE-30Nov2011.zip
- DEER2011_EnergyImpacts_IOU-SDG-30Nov2011.zip
- DEER2011_EnergyImpacts_IOU-SCG-30Nov2011.zip
- DEER2011_EnergyImpacts_NonIOUspecific-30Nov2011.zip

These files were created using READI by downloading the energy impacts for all measures and filtering on the applicable IOU. The first four include all of the IOU-specific energy impacts and the last one includes all of the non-IOU specific energy impacts (filtered with “IOU = All”). There is also a spreadsheet included in the archive called “DEER2011_EnergyImpacts_NonIOUspecific-30Nov2011.zip” that includes the Measures table along with other support tables downloaded using READI.

Q: I'm getting an error when attempting to filter the Energy Impacts list in READI. How can I filter the energy impacts? *(30 Nov 2011)*

A: This error has been fixed with READI version 0.99.3. Get the latest READI version from the link within READI or from the DEEResources.com web site.

Q: I’m looking at the DEER database and am trying to find the gas savings for foam roof insulation (R-19). For the measure “Ceiling – Add R-19 batts on top of vintage-specific existing insulation”, the energy impacts are different depending on the Location (climate zone) and HVAC Type. The energy impacts tab shows 4 HVAC types: rNCGF, rDXGF, rNCER and nDXHP. How can I find out what each of these four HVAC types represent? ... also, why are there electric savings for the gas furnace technology types? *(29 Nov 2011)*

A: From the “Support Tables” tab of READI, select the “Applicability Tables” group on the left side of the screen, and the “Building HVAC Type” button. The displayed table will describe all of the HVAC codes. The residential systems include:

- direct expansion cooling (aka central AC) with gas furnace heating (DXGF),
- no cooling with gas furnace heating (NCGF),
- no cooling with electric resistance heating (NCER) and
- direct expansion heating and cooling (aka heat pump) (DXHP)

For the “no cooling” case with gas furnace, any measure that decreases the need for heating will also decrease the electricity consumption of the furnace supply fan.

ISSUES

27 Jan 2012: IOU comments have uncovered an error in the residential therm HVAC interactive effects factors (aka "heating take-back"). The values reported in the 13 December 2011 workbook include non-IOU heating fuel and are on the order of 10% too high.

Resolution: The interactive effects have been corrected in the latest DEER2011 database and in the IE workbook.

15 Jan 2012: An error has been identified with the weighting process that creates the "Existing" vintage from individual vintage energy impacts. The error leads to the Existing vintage results being 2 - 4% too high.

Resolution: READI is being augmented to allow for custom weighting of existing results. This new custom weighting process will be utilized to calculate the weighted existing vintage results from the individual vintage impacts. Note: all impacts have been corrected in the latest version of DEER2011..

15 Jan 2012: All energy impact results for the clothes washer measures are under review. It has been observed that the results for cases with electric dryers are incorrect. The energy impacts for clothes washer measures will be corrected as soon as possible.

14 Dec 2011: For The Community College and University building types, the IOU-territory demand impacts for indoor Linear Fluorescent lighting measures are not correct in the current DEER2011 database. Instead of being the weighted demand impact across the applicable climate zones, the IOU-territory values were incorrectly set to the demand impact for climate zone CZ01.

Resolution: For the College and University building types, the demand factor was incorrectly set to 0.81 and 0.72, respectively. The correct values are a function of IOU territory and building vintage and are shown below. The impacts have been corrected in the latest version of DEER2011.

corrected IOU-territory demand factors for Linear Fluorescent measures

	Community College		University	
	New	Existing	New	Existing
PG&E	0.435	0.454	0.462	0.465
SCE	0.558	0.601	0.502	0.411

SDG&E	0.728	0.728	0.651	0.651
incorrect	*0.810*	*0.810*	*0.720*	*0.720*

5 Dec 2011: The Code/Standard Technology for some HVAC measures incorrectly describe the 2005 Title-24 code required technologies instead of the 2008 Title-24 code required technologies. The associated energy impacts are correct, only the code technology *descriptions* are incorrect.

Resolution: The following table lists the correct technology descriptions. These updated have been incorporated into the latest DEER2011 database.

corrected technology descriptions

MeasureID	Incorrect Code Technology Description	Corrected Description
NE-HVAC-airAC-Pkg-lt65kBtuh3phs-12p0seer	Pkg AC SEER = 9.70; EER = 9.22; Clg EIR = 0.306; Supply Fan W/cfm = 0.445794; no econo	Pkg AC SEER = 13.00; EER = 11.06; Clg EIR = 0.256; Supply Fan W/cfm = 0.379; no econo
NE-HVAC-airAC-Pkg-lt65kBtuh3phs-13p0seer		
NE-HVAC-airAC-Pkg-lt65kBtuh3phs-14p0seer		
NE-HVAC-airAC-Split-lt65kBtuh3phs-12p0seer	Split AC SEER = 10.00; EER = 9.50; Clg EIR = 0.297; Supply Fan W/cfm = 0.433; no econo	Split AC SEER = 13.00; EER = 11.06; Clg EIR = 0.256; Supply Fan W/cfm = 0.379; no econo
NE-HVAC-airAC-Split-lt65kBtuh3phs-12p0seer		
NE-HVAC-airAC-Split-lt65kBtuh3phs-12p0seer		
NE-HVAC-airAC-SpltPkg-135to239kBtuh-10p8eer	Pkg AC EER = 9.50; Clg EIR = 0.275; SF W/cfm = 0.419; CF W/Btuh = 0.0079; w/ econo	Pkg AC EER = 10.80; Clg EIR = 0.262; SF W/cfm = 0.27; CF W/Btuh = 0.00535; w/ econo
NE-HVAC-airAC-SpltPkg-135to239kBtuh-11p5eer		
NE-HVAC-airAC-SpltPkg-135to239kBtuh-12p0eer		
NE-HVAC-airAC-SpltPkg-240to759kBtuh-9p8eer	Pkg AC EER = 9.30; w/ furnace; w/ econo	Pkg AC EER = 9.80; w/ furnace; w/ econo
NE-HVAC-airAC-SpltPkg-240to759kBtuh-10p5eer		
NE-HVAC-airAC-SpltPkg-240to759kBtuh-10p8eer		
NE-HVAC-airAC-SpltPkg-65to89kBtuh-11p0eer	Pkg AC EER = 10.10; Clg EIR = 0.262; Supply Fan W/cfm = 0.385; Cond Fan W/Btuh = 0.0054; no econo	Pkg AC EER = 11.00; Clg EIR = 0.257; Supply Fan W/cfm = 0.298; Cond Fan W/Btuh = 0.0053; no econo
NE-HVAC-airAC-SpltPkg-65to89kBtuh-11p5eer		
NE-HVAC-airAC-SpltPkg-65to89kBtuh-12p0eer		
NE-HVAC-airAC-SpltPkg-90to134kBtuh-11p0eer		
NE-HVAC-airAC-SpltPkg-90to134kBtuh-11p5eer		
NE-HVAC-airAC-SpltPkg-90to134kBtuh-12p0eer		
NE-HVAC-airAC-SpltPkg-gte760kBtuh-9p5eer	Pkg AC EER = 9.00; w/ furnace; w/ econo	Pkg AC EER = 9.50; w/ furnace; w/ econo
NE-HVAC-airAC-SpltPkg-gte760kBtuh-9p7eer		
NE-HVAC-airAC-SpltPkg-gte760kBtuh-10p2eer		