

**REQUIREMENTS FOR REPLACING HIGH PRESSURE ELECTRICITY GEYSERS WITH NON PRESSURE SOLAR
WATER HEATING SYSTEMS – GEYSER LOAD REDUCTION PROCESS**

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The installation of LP (Non Pressure) SWH in a geyser replacement market will be allowed for hot water usage for baths, kitchen and domestic worker's quarters following the rules stipulated below.

Participants must be registered on the Eskom SWH rebate programme, if participants have not been registered on the programme and wish to do so they may request a participant's registration pack from eskomswhproject@deloitte.co.za or call 021 427 5450.

All components used in an installation must be deemed fit for use, tested and approved by the SABS. Please note that legislation has a top down approach and local rules cannot override National or provincial ones without having followed due process.

The supplier must give the customer a 5 year guarantee on the system; the guarantee must include tube breakage, valve failure and filler tanks as well as all other programme requirements and conditions.

1. Old geyser

Installations will be allowed for geyser replacements, the following requirements must be followed when replacing existing electricity geyser with a solar geyser;

- The existing geyser must be completely disconnected at all the plumbing and electrical points and emptied of water, and/or,
- Have a hole drilled into the bottom of the remaining electric geyser tank, and/or;
- Remove geyser from the house (after a hole has been drilled as described above).
- Ensure that the wiring is at all times left in a condition that is in accordance with relevant regulations and standards.

2. Installation requirements

Collectors must be orientated and inclined correctly during installation. Participants must comply with the following installation requirement;

- Collectors must face true north
- A deviation of 45⁰ east or west is acceptable South facing collectors will not be rebated
- Collector tilt angle to latitude (+10° if required)

An assessment of the roof structure (that will support the anticipated loads and be able to withstand severe weather conditions) must be carried out by a competent person in accordance with SANS 10400. The unit must be securely fixed to the roof structure.

3. GPS Co-Ordinates

Participants may use various technologies available to them to acquire GPS co-ordinates. A space on the claim forms has been provided for GPS Co-ordinates. The Participant must ensure that the GPS Co-ordinates are filled in on the claim form. (See example on Fig. 1)

Name of installation company			
Name of installer			
PIRB No (if applicable)		GPS Co-ordinates Latitude (Format is ddmss.000S e.g. 23.3729440S) Longitude (Format is ddmss.000E e.g. 30.7146390E)	
Signed (installer)	Date		

Figure 1: Example of GPS Co-ordinates section to be completed by participants on claim form

4. Pictures of installation

The pictures MUST be taken by the installer and provided to the customer, should the customer make the rebate claim. The required pictures must be clearly visible, some cell-phones and cameras have built in GPS software participants may make use of this technology, where photos do not have the GPS Co-ordinates embedded on them participants must manually put the co-ordinates next to the picture. The volume of photos will be too large to receive by e-mail if all participants do this. Pictures must be submitted on a Memory Stick, CD or DVD, these must be submitted for each claim in the batch. The types of photos taken must clearly show the following:

- Top of the roof (whole system)
- Mixing valve and tap
- Level picture of the system with collar showing
- Level picture showing load distribution of the SWH System
- Barcode of the SWH system corresponding to the address GPS co-ordinates
- Isolating Valve
- Orientation of system (north facing)
- Quality of installation (neatness inside and outside)

5. Supporting Documentation

Suppliers/Customers must attach supporting documents to the claim forms. Failure to comply will lead to claims being rejected and returned as unpaid. The following supporting documents must be submitted by Suppliers/customers;

- Proof of residential address is submitted (where installation takes place) if not shown on electricity bill (must match the claim form details)
- Copy of claimants ID book
- Copy of electricity bill or recent prepaid meter receipt
- In the case of a sectional title please provide the levy statement if no electricity bill available.

- In the case of a new development please provide an Occupation certificate.

6. Key Requirements

Participants are to observe the following requirements and any deviations may result in rebate payment delays or claims returned unpaid.

- SWH systems must have a valid SABS mark certification
- All components used for an installation must be tested, approved by the SABS and deemed fit for use
- Maximum one LP installation per residential house
- SWH installed must replace an existing electricity geyser or geyser load thereof
- Pictures must be submitted electronically together with the claim form (See No. 4 for picture requirements)
- System must be installed as a stand-alone LP System and must not connect to the existing plumbing with the exception of the cold water inlet.
- Where a LP SWH hot water output is proposed to be pressurised and connected to the **existing** high pressure hot water circuit, the appropriate SABS approvals for the configuration must accompany the APPLICATION, and approval must be granted by the Eskom SWH programme technical team, before commencement of the installations.
- Where a back-up element has been installed, a qualified electrician must issue the electric COC and a timer must be installed and set according to Eskom’s requirements on the programme (*the timer may not turn the element on between 7am to 10am and between 6pm to 8pm*)
- Old geyser must be disposed of as per the process in point 1 above
- Customers should be made aware of the differences between a high pressure and non pressure geyser prior to installation.
- **Participant call centre number and emergency number (for after hours) must be provided to the customer**
- All rebates with respect to the systems installed within the geyser load reduction process, must be ceded to the supplier.
- A list of customers requesting the LP SWH must be sent upfront for approval before any installations are done, participants should allow for a two week approval process with respect to these schedules.
- A declaration will need to be completed, by all participants, with respect to each batch submitted stating that all of the above has been adhered to.

7. Contact Details

For specific complaints, queries or suggestions that need to be addressed by a specific team member, please use contact details as provided on Table 1.

Table 1: SWH programme key contact details

Category	Telephone	e-mail
Supplier related queries <ul style="list-style-type: none"> • Registration queries • Website queries • Claim form request • Barcode request • General supplier queries 	(021) 427 5450	eskomswhproject@deloitte.co.za

LP quota related queries		swheclaims@deloitte.co.za
Submitting information to complete claims (not general claims queries)	(021) 413 2833 (fax)	zacpteskomsw@deloitte.co.za
General info and customer claims queries	(011) 800 4744	solar@eskom.co.za

8. Technical Audits

Once a site is selected the appointed technical auditors may contact consumers (and accountable participant where applicable) and arrange a suitable time for on-site inspections. Verifications on the installations will be carried out according to a standard checklist based on relevant national regulations and Eskom SWH programme rules. The technical auditors submit reports to the SWH programme team who will handle the data accordingly.

Figure 1 is an example of the auditor's checklist

SWH AUDIT FORM (USE CAPITAL LETTERS ONLY)				
HOME OWNER AND SWH SYSTEM INFORMATION				
SWH BARCODE NUMBER				
SURNAME	NAME			
ID No.				
HOUSE No.	STREET			
PROVINCE	MUNICIPALITY			
GPS COORDINATES	Latitude (Format is ddmms.000S e.g. 23.3729440S) Longitude (Format is ddmms.000E e.g. 30.7146390E)			
SWH SYSTEM NAME	SWH SYSTEM SIZE			
INSTALLATION COMPANY				
INSTALLER'S NAME				
AUDITORS DETAILS				
AUDITOR'S NAME:	DATE:			
AUDITOR COMPANY				
REQUIREMENTS				
1. THERMAL INSULATION				
1.1	Are external hot and cold water pipes and fittings insulated?	Y	N	
1.2	Is insulation attached (cable tied) with the minimum spacing of 0,5m?	Y	N	
1.3	Is insulation installed to manufacturer's requirement, mitred + taped and not split?	Y	N	
1.4	Is insulation UV and weather protected?	Y	N	
2. ORIENTATION and INCLINATION				
2.1	Is collector tilt angle to latitude (+10 if required)?	Y	N	
2.2	Is collector orientation facing Due North (Max deviation 45° East/West of North)	Y	N	
3. HAIL+FREEZE RESISTANCE				
3.1	Is hail cover grid fitted as required on collector marking (if applicable)?	N/A	Y	N
3.2	Are pipes and fittings insulated against freezing in areas where frost/freezing occurs?	N/A	Y	N
3.3	Is the collector freeze resistant and marked accordingly if installed in areas where frost/freezing occurs?	N/A	Y	N
4. METAL PIPEWORK				
4.1	Have galvanised steel pipes & fittings been used?	Y	N	
4.2	Have copper or stainless steel pipes only been used outside building?	Y	N	
4.3	Are copper pipes connected to hot water tanks in compliance with SABS?	Y	N	
5. PLASTIC PIPEWORK				
5.1	Are plastic pipes and fittings only inside the building?	Y	N	
5.2	Do compression fittings used on PE-X pipes have internal inserts?	Y	N	
6. PIPEWORK GENERAL				
6.1	Are all pipes fixed with manufacture's clips (masterbats) with the minimum spacing of 0,5m?	Y	N	
6.2	Are only union/compression/pushon type fittings used at all connections to the tank, collectors and valves? Not soldered, glued, welded, crimped fittings?	Y	N	
6.3	Are formed bends in Multi-layer PE-X pipes within the radius specified by the manufacturer?	Y	N	
6.4	Are connections to tank and collector done as marked on the tank?	Y	N	
7. STAND AND MOUNTING				
7.1	Does the section of the stand bearing most of the load of the storage tank rest on a load spreading beam?	Y	N	
7.2	Are the stand footings secured or fastened on the peaks and not in the waterways of the roof cover material?	Y	N	
7.3	Are the stand footplates of acceptable size and design for the cover material to bear the load?	Y	N	
7.4	Is the system level at 180° to the horizon (in an upright position), within a maximum deviation of ±5°?	Y	N	
7.5	Do the sealing methods and materials comply with SANS 10400 part 1, regarding clamping, coving and dressing around pipes?	Y	N	
7.6	If the frame was adjusted, does it still comply with all material, corrosion and structural requirements stated in SANS 1307?	Y	N	
7.7	Have all roof penetrations (for bolts, screws, pipes etc) been adequately sealed?	Y	N	
7.8	Is the stand sturdy with adequate bracing to withstand loads?	Y	N	
8. TAPS AND VALVES				
8.1	Is there an isolating valve on the geyser supply feed?	Y	N	
8.2	Is the isolating valve accessible without a step ladder?	Y	N	
8.3	Is there an isolating valve on the hot water supply?	Y	N	
8.4	Is a blending/mixing valve installed?	Y	N	
8.5	Is the tap securely fastened to the wall?	Y	N	
8.6	Is there a brass tap installed? (SABS approved plastic taps may only be installed indoors)	Y	N	
8.7	Does the isolating valve have a lever or handle of emergency shut down? (SAFETY)	Y	N	

9. HOT WATER STORAGE TANK AND COLLECTOR			
9.1	Check that the hot water storage tank does not have provision (connection) of an electrical element – even if it is plugged off and is not fitted with an element. If the connection is there, the tank does not comply.	Y	N
9.2	Does the hot water storage tank comply with SANS 151?	Y	N
9.3	Does the system comply with SANS 1307?		
9.4	Are all tubes in working order?	Y	N
9.5	Does the tank have a separate vent pipe that may have a return bend on top, or be fed into the top of the feed cistern above the overflow?	Y	N
10. CISTERN FEED TANK			
10.1	Has a thermostatic tempering valve been fitted on the correct pipe work at the correct height?	Y	N
10.2	Is the cistern tank tight fitting and cover secured with screws?	Y	N
10.3	Does the cistern tank have additional acceptable fixed support e.g. collar or frame, which will carry the downward load and other applied loads e.g. wind?	Y	N
10.4	Is the over flow level higher than the invert of the inlet valve?	Y	N
10.5	Are all pipe work connected to the cistern fixed to the roof structure or frame?	Y	N
10.6	Is the float valve made of metal to deal with hot water?	Y	N
10.7	Is the float level right for the reservoir feeder bucket?	Y	N
10.8	Is the cistern tank material suitable for high temperatures (>50 C)?	Y	N
10.9	Does the cistern tank capacity allow for the expansion volume (between the float shut off level and the overflow)?	Y	N
11. INSTALLATION REQUIREMENTS			
11.1	Was the installation tap opened to see if water is running out, and the entire unit inspected and tested to check for compliance to the standards?	Y	N
11.2	Did the installer hand over the safety, maintenance and operation manuals to the home owner?	Y	N
11.3	Did the installer report any non-compliances on the installation to the home owner in writing?	Y	N
12. GENERAL INFORMATION			
12.1	How was the installer's demeanour?		
12.2	Were you aware of the SWH project? If yes, by what means of communication?		
12.3	Is the solar geyser working well?		
12.4	If not, what is the problem?		
12.5	ADDITIONAL COMMENTS		
	AUDIT RESULTS	RED FAILURE	ORANGE FAILURE
	HOMEOWNER'S SIGNATURE:		

Figure 1 Technical Audit Checklist