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Standpipes: An Evolving Approach to Public Water Supply

Standpipes allow the poor to purchase the amount of water they can afford, when they need it.



Many low-income households that are unable to afford a household connection must rely on public water points, commonly known as standpipes or standposts. As noted earlier, irregular and unpredictable incomes, caused by unemployment or seasonally varying wages, are a primary characteristic of low-income households. Consequently, in many instances, standpipes and other arrangements allow them to purchase the amount of water they can afford, as and when they need it. The standpipe often provides much-needed flexibility that can be critical to their livelihood strategies. Common throughout Africa, standpipes therefore constitute a key element of any strategy for improving water supply to low-income communities.

Public standpipes are typically installed by utilities in low-income areas, and financed either directly by the utility, by local authorities or through grants from central government, donors or NGOs. They differ from private kiosks in that the infrastructure is installed and owned by the utility even though it may be leased to a private operator for management purposes.¹ In many countries an emerging alternative to the standpipe is **resale** from a private or domestic connection located in a residential compound nearby. While most of these connections are installed for a single household unit, many operate as yard connections serving multiple households either within the compound or in neighboring compounds. Although initially offering free water in many cities, standpipes now charge US\$0.40 to US\$1.00 per m³. These alternatives are discussed in turn below.

4.1 Manage public standpipes better to serve the poor

The evolution of public standpipes

Standpipes are a long-standing delivery mechanism in many African countries. Until the 1980s, standpipes that dispensed 'free' water were a common way of getting water to low-income households. Political ideology determined who paid for this water. Some independent utilities would bill government but in many public utilities (e.g. municipal water departments), neither the state nor the user was invoiced for the water consumed. Over time, the inability to recover costs resulted in growing utility deficits and eventually to the decline of free public standpipes as a key component of delivery to low-income households.

In Benin, Ghana and Cameroon, the 1980s saw the systematic removal of standpipes due to a change in policy; and in Sao Tomé and Madagascar they were removed due to the lack of adequate cost recovery. In other cities, such as Nairobi, consumer preference for more reliable and accessible private water kiosks gradually led to the elimination of the public standpipe as a primary means of public water supply (see Chapter 5). Approximately 30% of households in Nairobi now rely on water kiosks, while in Blantyre, 70% depend on community-managed standpipe facilities.

¹Privately installed and managed water standpipes or kiosks are discussed in Chapter 5.

In the 1990s, payment for water at standpipes became more common. In some countries the transition from 'free' standpipes to 'paying' water points was well defined, as in Togo, where payment for water from standpipes came into effect after 1999. In several countries standpipes have been replaced by resale from a (private or yard) connection (e.g. Ghana), but in many other countries (such as in Burkina-Faso, Ethiopia, Mauritania, Niger and Nigeria) standpipes managed on 'commercial terms' under delegated arrangements are still the primary means of supplying water to low-income households. In a few cases, such as Kano, Nigeria, commercial and non-commercial systems exist side by side. Some free standpipes have been retained to allow low-income users a limited quantity of water (measured in jerry cans). Water vendors and households wishing to use more than the prescribed amount are required to pay a fee at commercial standpipes.

Utility-owned and managed standpipes

Some utilities develop and manage a network of standpipes with their own revenue (or with funding from other public sources). These standpipes are clearly the utility's responsibility and operation and maintenance tasks are either handled directly or delegated to other actors. Experience suggests that these management arrangements are a key factor determining the performance of standpipes. Several management options have been tried with varying degrees of success. The two main options are: (i) salaried standpipe attendants; and (ii) delegated management (be it to local administrative officers or local leaders, the community or private operators). The success of these models is often linked to three main factors: the level of convenience to the customer, the institutional arrangements for management and the incentives for cost recovery.

Salaried attendants recruited by the utility • Although it is increasingly uncommon for utilities to hire staff to man standpipes, the practice is still adopted by some utilities and departments such as in Ethiopia in the utility in Dire Dawa and in most Cape Verde municipalities. Experience shows that there is limited incentive for a salaried employee to either maintain prices at the level set by the utility or to ensure (much less improve) cost-recovery. Some utilities, municipalities, associations and committees responsible for standpipes therefore provide commissions (or bonuses) to standpipe attendants as an incentive to improve and adapt their service. In Zambia for instance, attendants are paid a fixed wage plus a commission on water sold, while in some West African countries, commissioned attendants are given financial incentives to remain open in the evening to serve women who are unable (for religious or cultural reasons) to visit the standpost during the day. In several cases such as in Ethiopia and Zambia, staff are required to manage standposts on a rotational basis, particularly if commissions are paid on some, but not all, standpipes. This limits the risk of misappropriation and avoids any inequality in remuneration between standpipe attendants.

Management arrangements are a key factor determining the performance of standpipes

Delegated Management Arrangements in Arusha, Tanzania

Box 9

Public kiosks in Arusha originally provided free water services through standpipes managed by the utility. These standpipes were located along main roads within the public space defined by the road reserve. As costs were not recovered from these points, the facilities received little maintenance from the utility and as a result, the scheme collapsed in 1990.

A new system of **public standpipes managed by neighborhood representatives** known as "mtaa leaders", was introduced in 1993 as part of a water and sanitation rehabilitation program funded by a KfW grant. The revised approach placed the management of the individual kiosks in the hands of the mtaa. Operators are hired by the mtaa leader to sell water to the public from metered standpipes installed by the utility. The operator is required to take daily returns to the mtaa leader who banks the daily collections and submits monthly returns to the ward executive officer for each kiosk under his control. The utility retains responsibility for O&M financing up to and including the water meter and the ward development committee responsibilities start at the meter and end at the tap.

The public water standpipes provide a level of water services that responds to the **socio-economic needs of the peri-urban communities**. The utility sells water to the standpipes at TZH 3/- (US\$0.003) and the kiosks retail it at TZH 10/- (US\$0.01) per 20 liter jerrican. Most of the standpipes surveyed actually charge TZH 20/- (US\$0.02) per can and the profit margins provide sufficient commercial incentive to sustain this practice. This arrangement is not without problems. One of the key problems encountered is the non-payment of utility bills by mtaa leaders. This has led to the disconnection of about 40% of the standpipes. Also, as socio-economic circumstances improve in peri-urban areas, residents have obtained private yard connections and started selling water in competition with the public standpipes.

The introduction of private kiosks has improved access for low-income consumers but has also led to the closure of some mtaa-managed standpipes. Many wards are now seeking to privatize the standpipes in order to improve efficiency, demonstrating that, through an evolving process, **improvements in management** arrangements for public water points can result in better access for poor households.

Note:

Exchange Rate
US\$1 = T Sh 800 (2000)

Source:

Wandera, 2000

Management delegated to local leaders and water committees • Faced with a growing number of problems in the management of standpipes, several utilities (such as in Arusha illustrated in Box 9, Blantyre and Addis Ababa) have handed over the responsibility for operating and maintaining standpipes to local leaders, local authority administrators or water committees. This arrangement has had its share of problems, as the inefficiencies in utility operations have not been eliminated simply by transferring responsibility to another often less experienced and capable operator. Although there was an expectation that institutions operating closer to the community would be more effective in handling these systems and ensuring that social concerns were addressed, in reality the performance of these organizations has been poor. Poor performance is often the result of political interference, inexperience in financial management, lack of incentives and weak accountability mechanisms.

Management delegated to community organizations • Partnerships with local community-based organizations are an increasingly common arrangement for the management of standpipes. In Zambia, Senegal (see Box 10) and Mali, communities are given the opportunity to apply for management responsibility and identify a manager(s) who will be contracted by the utility, municipality, or directly by the community. In several cases, the community retains oversight and has a contract with the relevant party. While community organizations have proven to be better managers of

standpipes than local leaders, experience varies across the region and depends on the degree of organizational ability and management capacity in the community.

Management contracted out to private managers • Utilities are becoming increasingly aware of the need to ensure that standpipe managers have a commercial outlook that promotes efficiency and cost-recovery. Several are now leasing their installations to private operators and selling them bulk water. Efforts are increasingly being focused on procedures for awarding these contracts as past experience suggests that the process to date has not always promoted transparent selection of standpipe managers. This is particularly the case where the municipality is involved in choosing the manager but does not assume any liability when they fail. This is illustrated by experiences in the cities of Arusha, Tanzania, Blantyre, Malawi and Addis Ababa, Ethiopia.

Box 10

Community Management of Standpipes in Dakar, Senegal

The water supply to Dakar (and some 50 other urban areas) is provided by Sénégalaise Des Eaux (SDE), a private company with a 10 year lease contract (1996-2006) to the Senegalese National Water Authority (SONES) to manage and deliver water services. At the end of 1999, 1900 standpipes were in operation, serving 500,000 customers in Dakar. Given the limited number of household connections, standpipes are considered an essential element of the urban public water supply strategy, especially in crowded or new neighborhoods. This is because, for a relatively modest investment, standpipes have enabled the utility to respond to demand from households with low or irregular incomes (for small quantities of water).

A strategy for reaching low-income communities

As the procedures and practices of SONES and SDE for dealing with household connections were not considered appropriate to poor neighborhoods - where community rather than individual solutions must be applied - in 1999 SDE and SONES entered into a partnership with ENDA, an NGO experienced in 'social engineering', to design a strategy for reaching low-income consumers.

The strategy developed requires the active involvement of the community, through organized management committees that enter into lease agreements with SDE. Community commitment is an essential element of the strategy because: (i) the local population is required to contribute 25% of the cost of the standpipes and the associated network extensions; and (ii) poor installation of a standpipe can lead to it becoming unused. Local management committees represent the local people in each area where an extension was planned.

Contracting to selected management groups

The day-to-day management of standpipes is entrusted to women's groups or self-help groups following a competitive selection procedure undertaken by the local management committee. To qualify the applicants must live in the area targeted by the installation and be of 'sound character'. On signing the agreement, a deposit of CFA 30 000 (US\$54) is paid as a guarantee or an advance on future consumption payment. The contract with SDE is entered in the name of the chairman of the local committee who supervises on a day-to-day basis and maintains responsibility for finances.

The role of a supporting NGO

In addition to helping to form or strengthen the local management committee, ENDA is also responsible for installing the system under supervision of SONES and SDE. The NGOs also provide training for standpipe operators in management, maintenance, and hygiene and provide back up support for a period of 6 months following installation.

Note:

Exchange Rate
US\$1 = CFA 560 (1999)

ENDA is an international NGO based in Dakar which undertakes a variety of development activities in the welfare or informal sector. Through the Water for People Programme, Enda is acting within the SONES priorities in undertaking community connections and installing standpipes in marginalized areas.

Source:

Primary data from SDE, 1998



In other countries (such as in Mali, Guinea and Niger), private managers are selected from existing customers who have proven their effectiveness as service providers. Competition is also being used to improve performance and service delivery. In Togo, a bidding system was jointly organized by the municipality (the owner) and utility (the main operator) as a means of selecting standpipe managers.

Mechanical standpipes and water vending machines • The use of coin-operated or electronic card-operated standpipes that dispense a given volume of water is not very common in sub-Saharan Africa. Vending machines are a useful tool for controlling the price of water and reducing management costs incurred by hiring standpipe managers. They are also considered a preferable alternative where there are high security risks (e.g. unsafe conditions for attendants) and where there is a substantial likelihood of misappropriation of funds by attendants. Electronic pre-payment cards/vending machines are currently in use in South Africa (as mentioned in Chapter 3) and are being introduced in Uganda and Ghana.

Coin-operated standpipes called 'yacoli' are in use in Côte d'Ivoire. Originally designed to be operated without a full time attendant, the yacoli or vending machine is now run by an attendant who may run several water points simultaneously. The introduction of an attendant has several benefits. Overall, mechanical systems are often less flexible and therefore less customer-friendly. Customers note that yacoli often take a long time to fill containers, and utilities note the high costs of maintenance.² In an effort to meet customers needs, attendants may by-pass the coin-operated delivery mechanism in order to fill containers of varying size and shorten filling times. However they are also relatively expensive, approximately US\$2,500 for a yacoli standpipe in Côte d'Ivoire, which is three times more than an ordinary standpipe and ten times more than a domestic reseller's connection.

Tokens, monthly payment cards and other non-mechanical payment systems • As an alternative to pre-payment vending machines, some utilities have introduced tokens, tickets or monthly cards as a means of improving cost recovery (see Box 11 on the token system in Chipata town in Zambia). In addition to controlling the handling of cash, these systems also allow tariffs to be set at a unit rate that is lower than the smallest coin. Depending on the nature of the arrangement, the production, distribution and collection of tokens can increase management costs (which must then be reflected in the price of water). Unsurprisingly, they may only be justified for small water supply systems.

² Yacoli are also relatively complex and often require the services of expert technicians from the utility

The Token System in Chipata town, Zambia

A token system was introduced in Chipata town in Zambia following a decision to introduce commercialized public standpipes in Mchini compound (prior to this water had been provided free of charge). The token system was introduced with the aim of improving **commercial operations** and improving **user participation** in water supply management. Standpipes are run by attendants, paid a salary and commission for token sales by CWSC. Each token buys 20 liters of water and consumers purchase tokens as and when needed. All standpipes are metered and readings are used to assess tokens sold and revenue collected. Records indicate that 93% of metered water is sold. Attendants are required to maintain environmental hygiene at the standpipes.

Box 11

Source:

Taylor et al, 1998

Lowering the price of water from standpipes

In order to lower the price of water from public standpipes it is necessary to consider the measures that will increase the number and distance between water points and provide incentives for those operating them.

Increasing the number of providers by encouraging competition • In areas where standpipes are the predominant or only form of water supply the standpipe owner/manager is often given the exclusive right to sell within a fixed catchment area. Although this approach is frequently promoted by utilities – who see it as a means of reducing investment costs while providing access within acceptable distance – it is also favored by standpipe managers and resellers who logically seek to limit competition (and may get together with fellow providers to form cartels).

Lack of competition may work against low-income households as they suffer the inconvenience caused by long distances, longer queues and higher prices that result from a shortage of supply. However, a larger number of standpipes does not necessarily mean lower prices. The case studies illustrated that in Dakar and Bamako, the cities with the greatest number of standpipes, prices were not necessarily cheaper. Standpipe managers compensate for low sales turnover by increasing the margin on the price of water.

Providing financial incentives to those who sell large volumes • Given the large volumes that they dispense, tariffs should also be structured to accommodate a flat or bulk rate for standpipe supply. In Burkina Faso, where there are few private connections, the utility provides large flow standpipes (medium diameter, high pressure) and standpipe managers sell an average of 20m³ per day. Standpipes are also sufficiently spaced to ensure competition, permit lower prices while at the same time providing an incentive for managers.

4.2 Promote domestic resale to reach those without connections

Increasingly, householders with a private connection are selling water to their neighbors. In some cities this practice, described in this document as 'domestic reselling' supplies up to 50% of households (and 80% of low-income households). It is particularly prevalent in cities, such as Cotonou, Benin and Accra, Ghana, where standpipes have been shut down without an alternative arrangement (such as a water kiosk or vending machine) being put in place. It is also common in cities where the distance between standpipes is too great, or the ratio of standpipes to people too low. This is the case in Abidjan, Côte d'Ivoire and Conakry, Guinea.

Domestic reselling has grown in response to customer demand. Households with private connections are often prevailed upon to sell water to neighbors.³ As they operate on commercial terms, domestic retailers are able to offer more convenient 'opening hours' and provide more flexible payment mechanisms than public standpipes. They are often located close to those households (within the same lane or neighborhood) and may even provide customers with credit facilities. In many cases such as in Kampala, Uganda and Yaoundé, Cameroun consumers prefer to pay more for the convenience offered by a nearby domestic retail point, than to queue for water that is free to them at a public standpipe.



Domestic resellers are able to offer a more convenient service and payment mechanisms.

³In some cases, the connection may have been obtained illegally. (see Box 12).

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Yet domestic reselling is not without problems. Those that can afford connections are often the better-off, less vulnerable members of the community, and although many households are pushed into supplying water to their neighbors, domestic reselling may increase their leverage within the community. While some reselling arrangements are mutually beneficial, others are exploitative and can lead to high tariffs and political maneuvering affecting low-income households.

Regularizing the domestic reselling of water

Reselling of water by households with private connections is often explicitly prohibited by utilities, which have the exclusive (legal) right to sell water within their service area. In Ghana and Togo, although it is not prohibited, the practice of domestic reselling may be frowned upon or discouraged by the utility. In a number of countries however this policy is changing. In the case of Abidjan in Côte d'Ivoire described in Box 12, the utility has begun to recognize the need for alternative arrangements for reaching low-income consumers, resellers are given special contracts allowing them to sell water from a tap or kiosk in their compound.

While it might not be strictly legal, utilities or authorities rarely contest this practice of reselling water at the household level. It is generally accepted that removing this option would have an impact on a large number of users who have no other access to an acceptable water supply. Prohibiting this practice may also place households that have a private connection at loggerheads with their neighbors – who may continue to exert pressure on them to provide the service. It may also create conflicts with utility or municipal staff – who may resort to collusion or corruption to keep certain retailers in business.

Reducing application costs and improving conditions for domestic reselling

Recognition of domestic reselling could:

- encourage resellers to be more professional in their approach;
- reduce the risk to resellers - by making their investments more secure; and
- enable the utility to reduce the number of illegal connections/reduce the level of unaccounted for water.

The decision to authorize domestic resale should be accompanied by a review of local constraints to ensure that the service can be provided at a reasonable cost. Experience to date suggests that there is an emphasis on measures that control, and perhaps hinder, rather than enable or promote resale (e.g. higher application fees and deposits, ineligibility for subsidies). Operating conditions often mean that any additional costs incurred by the domestic reseller are passed on to their consumers, further penalizing unserved households.

For instance, in Côte d'Ivoire, where resale has been explicitly authorized, resellers are excluded from the benefit of a subsidized connection (approximately US\$250) as that would be considered to be a public subsidy for a commercial activity. The utility also requires a deposit (about US\$300, equal to the cost of 12 months consumption) to reduce the risks of non-payment. This limits the number of resellers and subsequently limits competition.

Box 12

Approved Resellers in Abidjan, Côte d'Ivoire

In the early 1980s in Côte d'Ivoire, the utility SODECI and the national government made a decision to address the growth in the unauthorized resale of water (mostly obtained through individual illegal connections). This had become an important form of supply to the poorest people, especially those without a household connection or access to a public standpipe) as many of these illegal connections were made in informal settlements not reached by the utility. The decision was made to provide resellers with a permit authorizing them to sell water. They had to apply to the utility and convert to formal connections. This move had several objectives, reducing illegal activity and improving revenue collection. In 1983 the utility launched a campaign for authorized vending points.

In practice, the total volumes distributed by approved resellers are low and the impact of approved resellers has been limited to less than 5% of the total population. Authorized vendors only provide about 1% of the total resale and the volumes sold are on average, only 40 - 50m³ per month. See table.

Approved resale figures

	1994-95	1995-96	1996-97
Number of approved resellers	1,034	933	869
Volumes billed ('000 of m ³)	648	505	465
Average per reseller	627	542	536
Total volumes billed ('000 of m ³)	60,603	80,436	86,303
% of volumes billed to approved resellers	1.1	0.6	0.5
Population served (15l/d/p)	118,500	92,500	85,000
% of total population Abidjan	4.8	3.6	3.2

The corresponding turnover is also low, from CFA35 000 - 50 000 (US\$50-70) per month. After deducting the water bills from SODECI, CFA15 000 - 20 000 per month, (US\$20-30), the gross margin is quite low at CFA17 500 - 31 500 per month (US\$25-45), to be shared between the reseller and his technician. Furthermore, prices charged by the approved resellers are often the same as those charged by illegal resellers (who are obviously not billed by the utility). Despite this, business is good as resellers meet the demand of households with low or irregular incomes, particularly in underserved areas where there is little alternative.

Insufficient incentive for resellers

Other than the benefits to SODECI, the campaign to legalize reselling did not have any direct benefits for resellers as the terms they received were the same as those of domestic consumers. This is unfortunate as resellers already finance major extensions in neighborhoods. It might also have the effect of limiting competition which might contribute to higher prices thus making the service less accessible to the poorest people.

As is the case for all individual consumers, the vendor was required to provide a title deed, or landlord's permission - for rented premises, which is difficult at best for those in unplanned neighborhoods. Secondly, as installation of water meters is only permitted where legal right of way exists, the reseller is required to invest heavily in the cost of extending the network between the meter and their vending point often in a haphazard manner - losses incurred due to leaks in the system are inevitably billed by SODECI. Resellers are also subject to the normal tariff scales, and are therefore charged in the higher band in the tariff if they consume more than the average vendor (i.e. over 50m³/month). As a result the campaign to convert illegal connections into approved resellers carried out by SODECI did not make substantial gains. In Abidjan, the number of approved resellers dropped from 1 585 in 1983, to 869 by the end of 1997.

Despite the mixed results of this experience, in countries where resale is at best tolerated and at worst banned, and where there are few public standpoints, the recognition of resellers is critical. Recognition and appropriate contracting arrangements should be key aspects of a public water supply strategy that aims to reach the poor.

Note:

Exchange Rate
US\$1 = CFA 700 (2001)

Source:

CREPA, 1999

Establishing appropriate arrangements for domestic reselling

Domestic reselling also means that utilities deal with fewer customers buying larger quantities of water – a benefit for customer management. Efforts should therefore be made to focus on cost recovery, while at the same time encouraging appropriate behavior (e.g. fair pricing) by domestic retailers. In a manner similar to the strategy toward standpipes outlined above, if policy makers take into account the incidence of domestic reselling, it is clear that efforts should be made to formalize (and regularize) the practice and to develop mechanisms aimed at improving the level of service provided to the neighbor-customer. Measures could include:

- reviewing the tariffs applied to domestic resellers – rising block tariffs penalize the high consumption that stems from reselling and thus results in high unit rates for those households consuming water from the same meter;
- shifting policy and regulatory provisions to legalize this practice and thereby reduce the risk associated with the reselling role including formalizing the service delivery by establishing contracts with resellers;

AREQUAP-CI: an Umbrella Body of Authorized Vendors in Côte d'Ivoire

Box 13

AREQUAP-CI, is the umbrella body of authorized water vendors in Côte d'Ivoire whose primary objective is to **obtain recognition** from the Ivorian water utility (SODECI) and improve working conditions for its members. Among other issues, the association is lobbying for: an appropriate tariff regime, lower deposit amounts, shorter billing periods, and protection from unfair competition by illegal vendors. AREQUAP-CI would like to evolve from an informal sector association to a professional one.

AREQUAP-CI was established in November 1998, on the initiative of several approved resellers in Abidjan. The association states that it wishes to **professionalize the sector** so as to improve the service given through city residents. This small group of founding members succeed in drawing in other resellers. In 2000 the association had 147 members, that is, one quarter of the approved resellers. Any resellers approved by SODECI can be a member of the association provided they pay a membership fee of CFA5,000 (US\$7) and a monthly subscription of CFA1000 (US\$1.5). The association is run by a management committee of eight members elected by its members.

The association, encouraged by its recognition together with the lobbying talent of its President, soon became an **important voice**. Whenever there are meetings with SODECI concerning urban water supply, AREQUAP-CI ensures that its opinion and demands are heard. They are currently pursuing two important issues. The establishment of a tariff system (based on a bulk rate) that is appropriate for resellers. This is because resellers are at present subject to the "normal" tariff offered to domestic customers, and as they consume large volumes of water, their bills fluctuate greatly from one month to the next. The association also contends that billing on a quarterly cycle results in frequent disconnections for its members who are unable to save funds over this long period of time (some have no access to banking facilities, etc), and are unable to estimate costs because of these monthly fluctuations.

Note:

Exchange Rate
US\$1 = CFA 700 (2001)

Source:

Any, 1999

- facilitating access through a connection subsidy in situations where the number of connections is small, standpipes do not exist or are too few in number;
- establishing a bulk rate for resellers such as the bulk price applied on kiosks in Nairobi or tankers in Accra;

- reducing risks for both parties by adjusting the billing cycle to sub-monthly or monthly (or more frequent) payments;
- facilitating appropriate payment mechanisms for resellers (e.g. allowing deposits to be paid in installments; allowing deposits to be indexed against average consumption rather than the more common practice of a fixed annual fee);
- encouraging competition between domestic resellers to set prices that cover costs but do not include unfair profit margins;
- monitoring the impacts on the poor, and especially on vulnerable households.

Finally, as domestic resellers are generally not recognized, they often do not have contacts with utilities and municipalities. AREQUAP-CI, an association of authorized domestic resellers in Abidjan, described in Box 13, is an exception that illustrates the benefits of recognizing the activity of reselling.

Efforts should be made to formalize and regularize the practice of domestic reselling.



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