



## A BRIEF STATEMENT ON THE PHILIPPINE ENERGY CRISIS

by the University of the Philippines Center for Integrative and Development Studies

### Introduction

On September 12, 2014, a letter was transmitted to Senate President Franklin Drilon requesting that the President be granted emergency powers in accordance with Section 71 of Republic Act 9136,<sup>1</sup> following DOE Secretary Petilla's recommendation.<sup>2</sup> The letter stated that the effects of the El Niño phenomenon, the existence of which had been declared by the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA),<sup>3</sup> together with the 2015 maintenance shutdown of the Malampaya Plant will result in a "critical electricity situation" in the summer of 2015.<sup>4</sup> The Senate approved on March 2, 2015 a resolution granting President Benigno S. Aquino III emergency powers to address the forecasted energy crisis.<sup>5</sup>

This was four months after the House of Representatives' Committee on Energy signed Joint Resolution 21 allowing President Aquino to "provide for the establishment of additional power generating capacity as mandated by [EPIRA], to [address effectively] the projected shortage of the supply of electricity in the Luzon grid from 12 March to July 2015."<sup>6</sup>

The House Resolution authorized Aquino to implement the Interruptible Load Program (ILP) that paid accredited companies, free of value added tax, to run their generators during peak hours to reduce demand on the grid.<sup>7</sup> It also allowed Aquino to fast-track committed power projects and other energy conservation measures.<sup>8</sup>

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<sup>1</sup>Congress of the Philippines, Electric Power Industry Reform Act of 2001.

<sup>2</sup>Carlos Jericho Petilla, to Franklin Drilon, September 12, 2014, [http://issuu.com/inquirerdotnet/docs/pnoy\\_letter\\_re\\_epira?e=6505834/9332181](http://issuu.com/inquirerdotnet/docs/pnoy_letter_re_epira?e=6505834/9332181) (accessed March 5, 2015).

<sup>3</sup>Philippine Atmospheric, Geophysical and Astronomical Services Administration, "Weak El Niño in Progress," <http://pagasa.dost.gov.ph/index.php/add-news/2304-weak-el-nino-in-progress>. (accessed March 16, 2015).

<sup>4</sup>Ibid.

<sup>5</sup>Pilar S. Macrohon, "Senate Okays Resolution to Address Power Shortage; Seeks to Amend Bio Fuels Act," [https://www.senate.gov.ph/press\\_release/2015/0302\\_prib2.asp](https://www.senate.gov.ph/press_release/2015/0302_prib2.asp). (accessed March 4, 2015).

<sup>6</sup>Mark Jayson Cayabyan, House Panel OKs Aquino Emergency Power," *Philippine Daily Inquirer*, November 18, 2014, <http://newsinfo.inquirer.net/651428/house-panel-oks-aquino-emergency-powers>.

<sup>7</sup>Ibid.

<sup>8</sup>Ibid.

The Senate version included the adoption of the ILP as well, for the same purpose of deloading the grid during peak hours.<sup>9</sup>The cost of the ILP program is to be shouldered by consumers who will be charged an additional P7 to P8 per kilowatt-hour on their electricity bill.<sup>10</sup>

On March 3, the Senate and the House convened a bicameral conference to reconcile their separate versions of the resolution.<sup>11</sup>

The Department of Energy (DOE), according to various news outfits from July to October 2014, made inconsistent projections for the 2015 energy deficit. But on October 20, during the congressional hearing on the current energy situation of the country, DOE Electric Power Industry Management Bureau Assistant Director Irma Exconde said that the projected power supply shortage was only about 31 MW, excluding an additional buffer of 647 MW.<sup>12</sup> This meant that the projected power shortage would only be equivalent to a two-week power interruption.<sup>13</sup> The crisis that DOE Secretary Petilla mentioned in his earlier proposal turned out to be more a deficiency of reserves rather than of actual supply.<sup>14</sup>

DOE Secretary Petilla's proposal showed a yellow alert to be issued in March 2015 and in May, while a red alert was anticipated for the entire month of April with a deficit of about 400-500 MW. Meanwhile, the State of the Nation technical report estimated that the Luzon grid would be short of 400-1,000 MW from March to May 2015.<sup>15</sup>

According to Joint Resolution 21, the maximum projected capacity shortfall was at 1,004 MW, 600 MW of which were needed as required spinning reserve while the remaining 404 MW were required contingency reserves.<sup>16</sup> It also projected a yellow alert period spanning of at least four weeks during March to May 2015.<sup>17</sup>

When the total reserve is less than the capacity of the largest generating unit of a power plant, a yellow alert is raised.<sup>18</sup> For the Luzon grid, the amount is equivalent to 647 MW, the capacity of one unit in the Sual Power Plant.<sup>19</sup> A red alert is issued when the power

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<sup>9</sup>See note 5 above.

<sup>10</sup>Ibid.

<sup>11</sup>Alvin Elchico, "Bicam Begins Reconciliation of PNoy 'Emergency Powers'," *ABS-CBN News*, March 3, 2015, <http://www.abs-cbnnews.com/business/03/03/15/bicam-begins-reconciliation-pnoy-emergency-powers>. (accessed March 4, 2015).

<sup>12</sup>Lira Dalangin-Fernandez, "DOE: 2015 Power Crisis An Issue of Reserves, Not Supply; Negotiated Deals for GensetsJunked," *Interaksyon*, October 20, 2015, <http://www.interaksyon.com/article/97611/doe-2015-power-crisis-an-issue-of-reserves-not-supply-negotiated-deals-for-gensets-junked>. (accessed March 4, 2015).

<sup>13</sup>Ibid.

<sup>14</sup>Ibid.

<sup>15</sup>Office of the President of the Philippines, "The 2014 SONA Technical Report," <http://www.pcoo.gov.ph/sona2014/2014%20SONA%20Technical%20Report.pdf>.

<sup>16</sup>Xianne Arcangel, "House Energy Panel OKs PNoy Request for Special Powers," *GMA News*, November 18, 2014, <http://www.gmanetwork.com/news/story/388574/economy/business/house-energy-panel-oks-pnoy-request-for-special-powers>.

<sup>17</sup>Ibid.

<sup>18</sup>See note 16 above.

<sup>19</sup>Ibid.

shortage is greater than the output of the largest generating unit at which time rotating brownouts are then scheduled to reduce demand.

## Results from Forecast Models

Based on a simulation using the load forecast and probabilistic loss-of-load models prepared for the University of the Philippines - National Engineering Center (UPNEC) study in 2012,<sup>20</sup> the expected number of days of power curtailment for the Luzon grid in 2015 is 10 days (red alert) for the high economic growth scenario of 7 percent per annum from 2011 to 2015.

Using the actual GDP growth rate from 2012 to 2014 and the projected 6.3 percent growth rate in 2015, the peak demand forecast using the load forecast for 2015 model in the UPNEC paper is 9,098MW,<sup>21</sup> which is close to the DOE's 9,011 MW forecast for 2015. Using the latest forecast demand and updated generating capacity data, power cuts will last for seven days in 2015. Taking into consideration the El Niño effect, the expected number of days that a red alert will be raised is 10. This validates the claim of DOE of a power crisis, but it is limited only to a few days. Thus, the ILP is a sufficient solution to secure the power supply in Luzon. If the ILP were to be applied to only 16 Manila Electric Company (Meralco) customers with at least 15 MW of demand, a total of 455 MW can be released from the grid to avoid rotating brownouts this summer.

If the ILP still fails to cover the power demand, the National Grid Corporation of the Philippines System Operator can order a scheduled power curtailment targeting non-critical loads of distribution utilities, such as residential feeders, to minimize the effect on the economy.

The emergency powers stated in the House Joint Resolution would suspend provisions of the Biofuels Act<sup>22</sup> and the Clean Air Act<sup>23</sup> to hasten the addition of more power plants to the national grid, thereby upping the power supply. It also allows the government to use "emergency or negotiated procurement for the purchase of bulbs and other equipment which would save electricity."<sup>24</sup> On the other hand, the Senate Joint Resolution allows only the suspension of the provisions of Biofuels Act.<sup>25</sup>

Building a power plant of 600 MW capacity would cost around P48 billion, and a 200-MW power plant would cost around P16 billion, around P2 billion higher than the two-year

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<sup>20</sup>Rowaldo del Mundo and Edna Espos, Philippine Electric Power Industry Market and Policy Assessment and Analysis of International Markets, [http://www.upnec.com/wp-content/plugins/upnec\\_public/includes/openfile.php?file=http|www.upnec.com/wp/wp-content/uploads/2012/02/PH-Electric-Power-Industry-Market-and-Policy-Assessment.pdf](http://www.upnec.com/wp-content/plugins/upnec_public/includes/openfile.php?file=http|www.upnec.com/wp/wp-content/uploads/2012/02/PH-Electric-Power-Industry-Market-and-Policy-Assessment.pdf).

<sup>21</sup>Ibid.

<sup>22</sup>Congress of the Philippines, Republic Act No. 9367 (2006).

<sup>23</sup>Congress of the Philippines, Republic Act No. 8749 (1998).

<sup>24</sup>Gary Baldo and Joshua L. Labonera, "Special Powers Include Quick Deals, Malampaya Funds Access, *The Daily Tribune*, November 19, 2014, <http://www.tribune.net.ph/headlines/special-powers-include-quick-deals-malampaya-funds-access>.

<sup>25</sup>See note 5 above.

lease of diesel generators. Building such plants would take around 3 to 5 years. But EPIRA bars the NPC from putting up new plants and instead allowing private firms to take care of the energy demand needed by the country as it is the government's policy to give the power generation business to the private sector.

### **Permanent Special Powers for the Office of the President**

Senator Serge Osmeña suggested making the special emergency powers conferred on the Office of the President permanent.<sup>26</sup> This is in light of the time-consuming legislative inquiry that stalled the grant of authorization. However, such permanent grant of special powers is susceptible to abuse as the President could do whatever he pleased even without the support of scientific evidence. The additional step of asking authorization from Congress ensures that the actions made by the Executive would be beneficial to the consumers and would not be without factual basis.

### **Conclusion**

The adoption of ILP is only a provisional measure to deal with the projected energy shortfall, and is justified for this time only because of such exigency. However, this program is ultimately costly and unsustainable as it relies on diesel-powered generation sets and should not be made a substitute to a comprehensive energy policy. A long-term, sustainable plan with an appropriate implementation mechanism in the context of a privatized and liberalized generation sector of the power industry is needed if the country is to maintain its economic growth without compromising the integrity of the environment.

In addition, there has been an undue focus on the supply side of the electricity sector. The government should also heighten its support for research on the demand side with the goal of drafting policies and programs that will boost energy-efficiency among consumers.

Lastly, an evaluation of EPIRA is also needed to assess whether it has achieved its avowed aim of introducing competition with a view of lowering the price of electricity. A study on the market structure of the energy sector is required to determine whether market capture exists. The provision precluding the NPC from building new generation plants should also be reviewed to address possible future energy crises.

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<sup>26</sup>Ernie Reyes, "Serge Eyes Permanent 'Special Energy Power' for Office of the President," *Interaksyon*, December 16, 2014, <http://www.interaksyon.com/article/101285/serge-eyes-permanent-special-energy-power-for-office-of-the-president>.