

trajectory as set out in South Africa's nationally determined contribution ("NDC") under the Paris Agreement, as emissions are required to decline from 2035, and "near zero" emissions are required by the second half of the century. If Thabametsi is allowed to proceed, at a time when South Africa is committed and legally obliged to meaningfully and timeously reduce its emissions, the Department of Environmental Affairs ("DEA") would be authorising what will be one of the worst GHG emitters in the country and in the world,<sup>45</sup> and with no means of reducing these emissions. This would be a clear contravention of the Constitution and NEMA;

49.6. there can be no basis for justifying such a harmful and risky project. Even if it could be justified (which it cannot), there is no need for the Thabametsi power station, based on: the fact that the IRP 2010 is outdated and no longer reflects South Africa's current and future electricity needs, and an update of the IRP is still in the process of being finalised; the Thabametsi judgment made clear that the existence of the IRP does not do away with the need for the impacts of individual projects to be assessed independently; and it is not clear why, nor is it correct that additional coal is needed to replace Eskom's power stations. This can be done more efficiently and more cost-effectively (quite apart from the other benefits) with renewable energy. The arguments that coal is needed to provide baseload electricity are outdated and incorrect.<sup>46</sup> The GHG assessment report, as indicated above, states that all coal plants will have a high significance rating.<sup>47</sup> This, however, is not the case for other sources of electricity generation; and

<sup>45</sup> P19, [https://www.ipcc.ch/pdf/special-reports/srren/SRREN\\_FD\\_SPM\\_final.pdf](https://www.ipcc.ch/pdf/special-reports/srren/SRREN_FD_SPM_final.pdf).

<sup>46</sup> See, for example: <https://www.aiche.org/chenected/2016/03/chinese-grid-officials-explode-myth-baseload-power-ceraweek>; <https://www.businesslive.co.za/bd/opinion/2017-02-24-need-for-base-load-power-is-a-pro-eskom-fabrication/>; <https://www.rmi.org/news/grid-needs-symphony-not-shouting-match/>; <https://www.nrdc.org/media/2017/170626>; and <http://reneweconomy.com.au/baseload-an-outdated-term-that-should-not-be-confused-with-reliability-34961/>.

<sup>47</sup> P54 & 62, GHG report.

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49.7. any benefits assumed to arise from the Thabametsi project would be completely outweighed by the irreversible and long-term harm that would be caused if Thabametsi were to go ahead.

#### **The Minister's decision on Thabametsi's appeal and the second Thabametsi case**

50. On 30 January 2018, the Minister issued a decision to uphold Thabametsi's environmental authorisation - despite the significant climate change impacts as outlined in its CCIA.<sup>48</sup>

51. The Minister, in making her decision,<sup>49</sup> states that she considered recommendations by EOH Coastal and Environmental Services ("EOH") dated 14 December 2017. EOH were appointed to advise the Minister on the CCIA. The EOH peer review (attached marked "B12")<sup>50</sup> states, *inter alia*, that:

51.1. *"The rationale for rating the project's emissions as VERY LARGE is appropriate. However, the rationale for the overall GHG emissions significance rating of HIGH (NEGATIVE) based on the EAPs rating scale is unclear and seems to be somewhat subjective. It is suggested that this could be elevated to VERY HIGH (NEGATIVE) due to high probability and very large emissions, and with limited opportunities for mitigation";*<sup>51</sup>

51.2. *"Although the report suggests that the less efficient subcritical technology is better suited to small-scale units such as that proposed for the Thabametsi power station, we are aware of other projects where a more*

<sup>48</sup> The Minister's decision is available at <https://cer.org.za/wp-content/uploads/2018/01/Thabametsi-Appeal-Decision-30-January-2018-2.pdf>.

<sup>49</sup> The decision is available at <https://cer.org.za/wp-content/uploads/2018/01/Thabametsi-Appeal-Decision-30-January-2018-2.pdf>.

<sup>50</sup> The EOH review is available at <https://cer.org.za/programmes/pollution-climate-change/litigation/the-proposed-thabametsi-ipp-earthlife-africa-johannesburg-v-department-of-environmental-affairs-thabametsi-power-project-pty-ltd-and-others>.

<sup>51</sup> P4 EOH Report.

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*efficient 350MW super critical boiler technology is being adopted. However there may be other local factors dictating the selection of the subcritical technology for the Thabametsi power station, such as water resource limitations" and "the selection of the technology appears to be very much cost driven";<sup>52</sup>*

51.3. *"the analysis of the climate-related risks appear to be realistic and reasonable, with the following risks being rated as HIGH significance: lower than normal precipitation leading to increased drought which will result in both water shortages and water quality issues; flood events causing polluted water overflows; and dry spells and drought events affecting communities and threatening the plant's 'social licence to operate';<sup>53</sup>*

51.4. *"... given that the emissions are VERY LARGE ... and there are limited opportunities for mitigation, it could be argued that the rating should be classified as being of VERY HIGH overall significance";<sup>54</sup>*

51.5. *"the water scarcity issue has not been downplayed and remains one of the most significant issues";<sup>55</sup>*

51.6. *the mitigation measures proposed are reasonable given the technology being assessed;<sup>56</sup>*

51.7. *"We do not have a strong view or opinion concerning whether existing energy policy represents or justifies the overall benefits of the project, or whether anticipated amendment to the IRP 2010 should be considered.*

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<sup>52</sup> P4 EOH Report.

<sup>53</sup> P6 EOH Report.

<sup>54</sup> P8 – 9 EOH Report.

<sup>55</sup> P9 EOH Report.

<sup>56</sup> P10 EOH Report.

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*The decision as to whether the benefits outweigh the costs (harm) lies with the Competent Authority”;*<sup>57</sup>

51.8. *“In our opinion there is some validity to the issue raised by I&APs (interested and affected parties) concerning the overall rating in the CCSPA ... the rationale for doing so is unclear”;*<sup>58</sup> and

51.9. *“... the most important risks include the: very large GHG emission levels that will contribute significantly to global GHG concentrations and global warming; and vulnerability of communities to the manifestations of a changing climate, particularly changes in precipitation patterns and resultant water scarcity”* (emphasis added).<sup>59</sup>

52. In conclusion, the EOH report recommends that the following issues should be considered by DEA:

*“While the HIGH significance risk rating for climate resilience according to the GRA is not unreasonable, it is suggested that the significant risk relating to GHG emissions could be VERY HIGH.*

*The rationale for concluding that the overall impact of the project is MEDIUM to LOW when emissions risks are VERY HIGH and water scarcity risks are HIGH, is unclear and it is suggested that the EAP should clarify their rationale.*

*The VERY HIGH GHG emissions levels associated with the project implies a high social cost. An attempt could have been made to provide an estimate of the SCC based on a range of values.*

*The environmental and social costs associated with the proposed Thabametsi Coal-Fired Power Station are HIGH. However, this does not necessarily represent a “fatal flaw” provided that the benefits are justified*

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<sup>57</sup> P11 EOH Report.

<sup>58</sup> P11 EOH Report.

<sup>59</sup> P12 EOH Report.

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*and can be motivated. In terms of the CCSPiA, the justification for the proposed power station is substantially based on existing adopted South African energy and climate change policy. In our opinion, this is not an unreasonable approach, although it is likely to remain contentious"* (emphasis added).

53. The Minister provides the following main reasons for her decision:

*"4.1. In arriving at my decision to confirm the EA, I have noted, in particular, that the operation of the 1200MW Thabametsi power Station will result in significant GHG emissions and will therefore have climate change impacts. I have taken note, furthermore, that numerous mitigation measures and recommendations have been added to the EMPr and that the updated and revised EMPr was released for public comment along with the CCIAR.*

*4.2. I have taken note, furthermore, that the CCIAR concluded that the findings of the additional studies undertaken do not alter the overall conclusion that no fatal flaws were identified to be associated with the project, even though the impact rating associated with climate change impacts is rated as high. This sentiment was echoed by the FOH peer review ...*

*4.4. I have taken note, furthermore that the EOH report concludes that while the high significance risk rating for climate resilience is not unreasonable, the significant risk relating to GHG missions could be very high. The EOH report also questions the rationale for concluding that the overall impact of the project is medium to low, when emissions risks are very high and water scarcity risks are high and suggests that the very high GHG emissions levels associated with the project implies a high social cost.*

*4.5. The EOH report concludes, however, that while the environmental and social costs associated with the proposed Power Station are high, this does not*

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*necessarily represent a fatal flaw, provided that the benefits are justified and can be motivated.*

*4.6. In addressing the justification of the benefits of the proposed project, I have taken note as I had done when initially adjudicating on this appeal, the terms of the Integrated Resource Plan for Electricity 2010 – 2030 (the IRP) ...*

*4.9 Concerns about the threat of climate change and the need for greater reliance on renewable energy were raised in the public participation process. These considerations were taken into account by decision-makers during the development of the IRP. A number of complex factors were weighed. Ultimately, the decision makers concluded that the harms that would result from the establishment of new coal-fired facilities (to generate an addition 63 GW) were outweighed by the benefit to the country of having the additional energy generation capacity.*

*4.10 Having carefully balanced all relevant factors (including the threat of climate change), the final IRP 2010 – 2030 does not prohibit the establishment of new coal-fired power stations. Rather, it permits that 6.3 GW of new generation capacity may be derived from coal.*

*4.11 I am satisfied, therefore, that the overall assessment of the risks and impacts associated with the GHG emissions and climate change vulnerabilities is systematic, realistic, conservative and not understated."*

54. In short, the Minister – in taking the advice of EOH that the high impacts do not necessarily represent a fatal flaw if they can be "*justified and motivated*" – has decided that the IRP 2010 serves as sufficient justification for the project (despite the high impacts), because in the IRP 2010 public participation process, the decision-makers allegedly took climate impacts into account, but they concluded that the harms that would result were outweighed by the benefit to the country of having additional energy generation capacity.

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55. We regard this decision as incorrect, unreasonable, and irrational. Earthlife and groundWork have instructed their attorneys, CER to institute review proceedings to challenge the decision, on, *inter alia*, the following grounds:

55.1. First, the Minister's reliance on the IRP 2010 was improper in several respects:

55.1.1. The Minister impermissibly fettered her discretion under NEMA by considering the IRP 2010 in a rigid and inflexible manner, and as being largely determinative of her decision.

55.1.2. The Minister's reliance on the IRP 2010 resulted in her failing to take into account relevant considerations.

55.1.3. The Minister committed a material error of fact by suggesting that the climate change impacts of coal were fully addressed in the IRP 2010 process.

55.1.4. The Minister's reliance on the IRP 2010 was otherwise irrational and unreasonable.

55.2. Second, the Minister overlooked material deficiencies in the climate change impact assessment report, including the failure to assess the social cost of Thabametsi's GHG emissions, the insufficient assessment of the risk of water scarcity and the impacts of the power station on the surrounding area's climate resilience, and the inadequacy of the mitigation measures.

55.3. Third, the Minister commissioned the EOH Peer Review, upon which she relied heavily in her ultimate decision, but she failed to grant Earthlife Africa or any other interested and affected parties an opportunity to comment on the EOH Peer Review. In doing so, she acted in a manner that was procedurally unfair and irrational.

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- 55.4. Fourth, the Minister's conclusion that the benefits of Thabametsi outweigh the climate change harms was unreasonable and irrational in the circumstances, in light of the evidence available to the Minister (or which could have been available, had the Minister made proper enquiries).
56. This review – the second Thabametsi case – will be launched imminently.

### **Thabametsi's other licence applications**

#### Thabametsi's water use (WUL) licence application

57. The application for an integrated water use licence ("IWULA") and a draft integrated water and waste water management plan ("IWWMP") were initially made available for comment on 3 November 2016. Earthlife submitted initial objections on 20 January 2017 ("**the initial IWULA objections**"). A copy of these (without annexures) is attached marked "B13".<sup>60</sup>
58. A revised IWULA and IWWMP were again published for comment on 14 December 2017. Earthlife and groundWork duly submitted supplementary IWULA objections on 5 March 2018 ("**the supplementary IWULA objections**"), a copy of which is attached – without annexures - marked "B14". To date, interested and affected parties have not been advised of the outcome of the application.
59. The 5 March 2018 supplementary IWULA objections highlighted that Thabametsi should not receive a WUL because: it would be against the public interest, it would not be the most beneficial use of water, and it would threaten other lawful water users in the catchment – thus it would not be in line with the requirements of the National Water Act, 1998 ("**NWA**"). In particular, the objections noted that:

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<sup>60</sup> A copy of the initial objections with annexures can be made available on request.



- 59.1. the power station will – if built – be located in the Mokolo Catchment, one of the most water-stressed catchments in South Africa. For an expensive and unnecessary contribution to the grid, Thabametsi would seriously threaten the ecosystem and water resources in the catchment, as well as the communities which rely on them;
- 59.2. the project's water supply, which would be dependent on the successful and timely completion of MCWAP2, is highly risky and uncertain;
- 59.3. Thabametsi's water supply is further threatened by climate change which would significantly reduce flows in both the Crocodile West and Mokolo Rivers, and Thabametsi would further exacerbate the harms of climate change by utilising and polluting the already-limited water on which communities and the environment depend;
- 59.4. as demonstrated in the report of Brad Udall, attached to this affidavit marked "B2", the strong preponderance of scientific evidence indicates that flows in the Mokolo and Crocodile (West) Rivers will likely significantly decline as the 21st century warms due to higher evaporation and evapo-transpiration. Udall cautions: "*South African water and infrastructure planners and government should prepare for significant Mokolo and Crocodile (West) River flow reductions and refrain from actions that will increase the risks of undesired outcomes. Maladaptive actions would include increasing the demands on these already over-allocated water systems, and contributing to additional warming by increasing emissions of greenhouse gasses through the construction of long-lasting, new coal-fired power plants*";<sup>61</sup>
- 59.5. Thabametsi's proposed toxic coal ash dump threatens the ecosystem and water resources in the area. The supplementary IWULA objections referred

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<sup>61</sup> Udall Report, p. 28.

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to the report of Evan Hansen, attached hereto marked "B3". Hansen's report identifies multiple threats to water resources from Thabametsi's proposed coal ash dump, including: that the proposed ash dump threatens groundwater because it is sited on top of faults; that the coal ash dump's leachate protection system does not conform to accepted international best practice standards, and will be too thin; and that Thabametsi's groundwater monitoring programme is insufficient because it does not include a full set of key coal-ash related pollutants, it does not require monitoring at wells surrounding the site in all directions, and it does not account for the area's faults, which may make it difficult or impossible to effectively monitor groundwater. Mr. Hansen concluded: "*Overall, I find that the mitigation measures are insufficient, and the chosen site is unsuitable, to properly minimize the risk of groundwater, surface water, and wetland impacts from the very large proposed coal ash dump and related infrastructure. Once contamination occurs in groundwater, in particular, it may threaten human health and the environment for decades or longer*",<sup>62</sup> and

59.6. the threats highlighted above are made even more unjustifiable by the fact that Thabametsi is unnecessary to meet South Africa's energy needs.

#### Thabametsi's atmospheric emission licence application

60. As far as we are aware, Thabametsi's application for its atmospheric emission licence ("AEL") has yet to be submitted. The National Environmental Management: Air Quality Act, 2004, and NEMA, require public participation on AEL applications.
61. In the initial objections, I referred to a letter from Thabametsi's attorneys to CER of 8 April 2016, in which it was stated that "*an incomplete Air Emissions License (sic) application has been submitted to the AEL Authority. Once all required*

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<sup>62</sup> Hansen Report, section 4.

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*information is available for the project, a complete application will be submitted. This application will be made available for public review and comment."*

62. After regular follow-up emails by CER to the environmental assessment practitioner ("EAP") – Savannah Environmental (Pty) Ltd dealing with the AEL application and Thabametsi's EIA and other licence processes - the latest email of June 2017, from Savannah, states that "... *the Thabametsi AEL has not been submitted as yet and I am unable to provide you with a timeframe of when this will be submitted. You will however be notified of when the applicant is ready to submit the AEL.*"
63. The report by Sahu and Gray, referred to above and attached marked "B4" finds, *inter alia*, that:
- 63.1. at certain sensitive and gridded receptors, emissions from the Thabametsi, Matimba and Medupi power plants alone, excluding any current baseline SO<sub>2</sub> concentrations in the area, exceed the NAAQS for SO<sub>2</sub>;<sup>63</sup>
- 63.2. while emissions from the Thabametsi, Matimba and Medupi power plants alone do not exceed the ambient standards for NO<sub>x</sub> and PM<sub>2.5</sub>: (a) the increased impacts due to the power plants are not trivial; and (b) when considered along with baseline or background concentrations that already infrequently exceed NAAQS for PM and NO<sub>x</sub>, it is highly likely that the operation of the Thabametsi power station would cause exceedances of the NAAQS for NO<sub>x</sub> and PM<sub>2.5</sub>. This is due to already high baseline emissions in the Waterberg-Bojanala Priority Area,<sup>64</sup> and

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<sup>63</sup> P1 and 11, Sahu Report.

<sup>64</sup> P1 and 11, Sahu Report.

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63.3. PM emissions from the Thabametsi mine have been significantly understated. Taking more accurate PM emissions from the mine into account, ambient concentrations of PM are expected to increase further.<sup>65</sup>

#### Relevant further engagements with NERSA

64. Since the objections of December 2016, our attorneys at the CER have exchanged the following correspondence with NERSA to bring the following relevant information to its attention:

64.1. an email from Nicole Loser at CER to Tamai Hore at NERSA, of 8 March 2017, advising that the judgment in the Thabametsi case was handed down that morning in favour of Earthlife, and that the Minister of Environmental Affairs had been ordered to reconsider Earthlife's appeal of the environmental authorisation. The Thabametsi judgment was attached to the email;<sup>66</sup>

64.2. a CER letter of 14 September 2017 to update NERSA on, *inter alia*, the findings of Thabametsi's final CCIA, the judicial review of Khanyisa's environmental authorisation, and the status of the other environmental licence processes for both Thabametsi and Khanyisa;<sup>67</sup>

64.3. a CER letter of 5 December 2017<sup>68</sup> in response to NERSA's letter of 14 November 2017,<sup>69</sup> in which NERSA advised - in respect of the Khanyisa application - that the IWULA was not yet finalised and that "*NERSA can therefore not proceed with this application*", and that NERSA "*will ... await*

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<sup>65</sup> P11, Sahu Report.

<sup>66</sup> A copy of this email can be made available on request.

<sup>67</sup> A copy of this letter is available at <https://cer.org.za/wp-content/uploads/2018/03/CER-NERSA-Letter-IPPs-14-9-17.pdf>.

<sup>68</sup> A copy of this letter is available at <https://cer.org.za/wp-content/uploads/2018/03/CER-Letter-to-NERSA-5-Dec-2017.pdf>.

<sup>69</sup> A copy of this letter is available at <https://cer.org.za/wp-content/uploads/2018/03/NERSA-14-11-17.pdf>.

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*for the court process to be finalised only if there is evidence that the matter is before the courts. This is to avoid prejudicing applicants by people who might not be having real intention to appeal the Environmental Authorisation decision to the courts". CER pointed out that Thabametsi had – similarly to Khanyisa – not been issued with a WUL, and that the Khanyisa review application had in fact been instituted in the North Gauteng High Court and that it would proceed on an opposed basis. NERSA responded to this letter on 3 January 2018<sup>70</sup> advising that NERSA would proceed with Khanyisa's application once it has obtained a WUL and that "NERSA would not stop processing any application, if all the prerequisites are met, because of a pending court case until there is a decision which makes it impossible to proceed therewith"; and*

64.4. a CER letter of 16 February 2018 to advise that the hearing of the applications for Thabametsi and Khanyisa is premature for the reasons set out in paragraph 14 above.<sup>71</sup>

65. Upon being notified of the public hearings in relation to this application scheduled for 27 March 2018, on 28 February 2018 CER wrote to NERSA requesting, *inter alia*, a copy of the procedural/practice rules followed by NERSA in relation to public hearings and licence applications.<sup>72</sup>
66. On 6 March 2018, CER wrote to NERSA to ask: how much time members of the public have to present objections; whether Thabametsi Power Company (Pty) Ltd would have an opportunity to answer and whether there will be a chance for presenters to reply; whether the hearings for each application would be conducted separately; whether the NERSA offices have video conferencing facilities for more remotely-situated members of the public to participate and

<sup>70</sup> A copy of this letter is available at [https://cer.org.za/wp-content/uploads/2018/03/Letter\\_CER\\_Thabametsi-and-Khanyisa.pdf](https://cer.org.za/wp-content/uploads/2018/03/Letter_CER_Thabametsi-and-Khanyisa.pdf).

<sup>71</sup> A copy of this letter is available at <https://cer.org.za/wp-content/uploads/2018/03/CER-Letter-to-NERSA-16-2-18.pdf>.

<sup>72</sup> A copy of this email to NERSA can be made available on request.

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present; whether there is an opportunity for Earthlife to submit supplementary written objections – given that more than one year has elapsed since the written objections to NERSA were made - and if so, when these written submissions must be submitted and if they can also be submitted after the hearings.<sup>73</sup>

67. To date we have not received a formal response to the above questions. This has impacted upon Earthlife's ability to prepare adequately for the hearings and to ensure a fair public hearing in terms of Promotion of Administrative Justice Act, 2000 ("PAJA") and the requirements of NERA.
68. On 20 March 2018, seven days before the NERSA hearing and after our initial request of 28 February 2018, NERSA sent CER a copy of the Rules for NERSA public hearing procedures ("**the NERSA Rules**"). Rule 2(k) of the NERSA Rules indicates that NERSA may, where applicable, state if written representations are permitted and if so, the date by which such representations must be received by NERSA, which date may not be earlier than 7 days before the public hearing is held. Despite requests to NERSA it has not advised when and whether supplementary written objections must and can be submitted. In any event, as groundWork only became aware 7 days before the hearings of the apparent requirement for written submissions to be made 7 days before a hearing; the initial NERSA objections were submitted timeously (in 2016) in accordance with NERSA's stipulated and agreed deadlines; NERSA has still not advised about provision for supplementary written objections – as requested in CER's 6 March 2018 letter; and given the public interest in this application – I submit that good cause has been shown to condone any perceived late filing of these supplementary objections in accordance with rule 6(2) of the NERSA Rules.
69. The 6 March letter also advised NERSA that, whilst the matter is not ripe for hearing, if the hearing were to be held, it should be held at a public gathering where all the interested and affected communities are based. Rule 4 of the

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<sup>73</sup> A copy of this letter is available at <https://cer.org.za/wp-content/uploads/2018/03/CER-letter-to-NERSA-6-3-18.pdf>.

NERSA Rules supports this approach of holding a hearing locally, to ensure a fair public participation process.

70. At paragraph 16 above and below we explain that we object to the procedural fairness of the process conducted by NERSA.

## OBJECTIONS

71. Based on the initial objections and the relevant additional information outlined above, the following objections are submitted in terms of section 11(2)(d) to (f) of ERA against the application for Thabametsi's NERSA licence.
72. Thabametsi's response to the initial NERSA objections seeks, *inter alia*, to argue that Earthlife's objections are directed at the policy decisions calling for new coal-fired generation capacity. The mere existence of such policies, however, does not exempt NERSA from its legal obligations to make decisions in accordance with the requirements of ERA, NERA and the Constitution.

### **Earthlife's procedural objections in relation to the public hearings scheduled for 27 March 2018**

73. NERA (s10(1)(d)) states that every decision of NERSA must be taken within a procedurally fair process in which affected persons have the opportunity to submit their views and present relevant facts and evidence to NERSA.
74. As explained above, at paragraphs 15, 16 and 70, Earthlife objects to the process being conducted by NERSA in respect of the hearings to be held on 27 March 2018 based on, *inter alia*:
- 74.1. NERSA's failure to ensure that the hearings are accessible to affected communities – by failing to hold hearings in the local areas where the proposed power stations will be based; and

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74.2. NERSA's failure to timeously provide Earthlife with the procedural requirements and processes to be followed in relation to the hearing and the submission of further written supplementary objections (despite requests).

75. We have also placed on record that we do not regard the applications as ripe for hearing and, on that basis, also object to the hearings going ahead on 27 March 2018.

**Thabametsi has not shown that it is able to comply with environmental laws**

76. Section 10(2)(e) of ERA states that an application to NERSA must include the plans and the ability of the applicant to comply with applicable labour, health, safety and environmental legislation, subordinate legislation, and such other requirements as may be applicable.

77. As Thabametsi has not obtained necessary licences, which it will require in order to operate - these being a WUL and an AEL - it cannot have demonstrated, in its application, its ability to comply with environmental legislation.

78. While we dispute that the mere existence of these licences is evidence that Thabametsi is able to comply with the law, I point out that the failure to obtain even these licences makes the application premature and is clear evidence of the failure by Thabametsi to comply with section 10(2)(e) ERA.

79. Thabametsi has provided NERSA with: a confirmation from Exxaro of a water allocation to be transferred to Thabametsi dated 29 June 2017; and a non-binding confirmation of water availability from the Department of Water and Sanitation ("DWS") dated 16 October 2015. These documents however, do not equate to a valid WUL, the application for which still needs to be considered by

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DWS and granted to Thabametsi, nor do they serve as evidence that Thabametsi is able to comply with the law.

80. As further discussed above and in Earthlife and groundWork's IWULA objections referred to above and attached marked "B13" and "B14", Thabametsi is likely to have significant impacts on water resources and there is a strong likelihood that there will not be sufficient water for the project to operate. In the supplementary IWULA objections, it is submitted that a proper application of the factors that a decision-maker must consider in terms of the NWA in deciding whether to grant a WUL (some of these factors include: the efficient and beneficial use of water in the public interest; and the likely effect of the water use on water users and the environment, for example) would weigh heavily against granting the WUL to Thabametsi.
81. The supplementary IWULA objections, referred to in paragraph 58 above, provide detailed submissions as to why these considerations have not been met.
82. As shown above (based on the report by Sahu and Gray) there would also be good grounds for rejecting Thabametsi's AEL application (when and if the application is submitted) due to the significant air quality impacts that the power station will have, and the fact that emissions from the power station, when considered cumulatively with the other power stations in the area, PM emissions from the mine and baseline levels of pollution, are likely to cause non-compliances with NAAQS.
83. In considering Thabametsi's AEL application, the licensing authority will be required to take into account the NAAQS;<sup>74</sup> and the licensing authority's decision on the AEL application must be consistent with NAAQS.<sup>75</sup>

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<sup>74</sup> S39(a), NEM: Air Quality Act, 2004.

<sup>75</sup> S40(2)(i), NEM: Air Quality Act, 2004.

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84. If Thabametsi is granted a WUL and/or an AEL, these decisions will be challenged by Earthlife.
85. Further, Thabametsi should submit to NERSA its plans and demonstrate its ability to comply with applicable labour, health, safety and environmental legislation.

**Licensing Thabametsi would not be consistent with the Constitution and other applicable laws**

Licensing Thabametsi would be inconsistent with the Constitution

86. Section 10(1)(a) of the NERA states that NERSA decisions must be consistent with the Constitution and all applicable laws.
87. We submit that licensing Thabametsi would breach, amongst other provisions, section 24 of the Constitution. Section 24 states that:

*Everyone has the right—*

- (a) to an environment that is not harmful to their health or wellbeing; and*
- (b) to have the environment protected, for the benefit of present and future generations, **through reasonable legislative and other measures that—***
- (i) prevent pollution and ecological degradation;*
- (ii) promote conservation; and*
- (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development” (emphasis added).*

88. We submit that licensing Thabametsi would not be a reasonable measure in terms of section 24 of the Constitution, because:

- 88.1. coal-fired power stations have significant impacts on human health, and the burning of coal for electricity is currently violating people's rights to a healthy

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environment – the licensing of more coal-fired power stations will further exacerbate this;

88.2. licensing a new coal-fired power station with an anticipated lifespan of 30 to 40 years (to come online after 2021) will result in significant GHG emissions, potentially breaching South Africa's Paris commitments; and

88.3. there is no need for additional or further reliance on coal-based electricity given: lower demand and the ability of other technologies (including renewable energy) to replace the capacity required (if any) - as indicated at paragraphs 19, 29 and 30 above.

89. Below I explain, in further detail, the likely health and climate impacts of Thabametsi.

*The health impacts of Thabametsi*

90. Although the Constitution envisages an environment that is not harmful to health and wellbeing, air pollution from coal-fired power stations significantly harms human health, and the burning of coal for electricity in the HPA is violating people's rights to a healthy environment. A 2017 study commissioned by groundWork<sup>76</sup> links the air pollution from particulate matter of Eskom's coal-fired power stations to 2 239 equivalent attributable deaths annually. It also states that these pollution impacts cost South Africa more than USD 2 billion annually, through premature deaths, hospital admissions, and lost working days.<sup>77</sup>

91. Eskom has admitted – in health studies<sup>78</sup> which it commissioned - that its power stations have harmful impacts on human health, and DEA has admitted that

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<sup>76</sup> Available at <https://lifeaftercoal.org.za/wp-content/uploads/2017/04/Annexure-A4.pdf>.

<sup>77</sup> Holland Report, p15, <https://lifeaftercoal.org.za/wp-content/uploads/2017/04/Annexure-A4.pdf>.

<sup>78</sup> Available at [https://cer.org.za/programmes/pollution-climate-change/key-information-at "Eskom Health Studies"](https://cer.org.za/programmes/pollution-climate-change/key-information-at-Eskom-Health-Studies)

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"many South Africans may be breathing air that is harmful to their health and well-being especially in the priority areas", and "a 9 year trend of pollutants indicate that the air quality has not improved".<sup>79</sup> This confirms that South Africans' section 24 constitutional rights are being breached on a daily basis.

92. Although Thabametsi is expected, and is designed, to meet the minimum emission standards<sup>80</sup> immediately, this power station will still be contributing to already high and unacceptable levels of air pollution in an air quality priority area – the Waterberg-Bojanala Priority Area. Licensing Thabametsi will cause significant increases in SO<sub>2</sub>, NO<sub>x</sub> and PM emissions. These emissions, when considered cumulatively with other sources of these pollutants in the area, including the Medupi and Matimba power stations and the Thabametsi and Grootegeluk mines, will bring the ambient air quality out of compliance with NAAQS. Indeed, the emissions from the Thabametsi, Medupi and Matimba power stations alone, (even without factoring in non-power plant sources) would exceed NAAQS for SO<sub>2</sub>, at some receptor locations.
93. Emissions of PM, NO<sub>x</sub>, and SO<sub>2</sub> from the Thabametsi project threaten public health and should be assessed in detail. For example, NO<sub>x</sub> exposure can cause serious damage to the tissues of the upper respiratory tract, fluid build-up in the lungs and death at high exposure levels.<sup>81</sup> PM emissions can cause a wide range of harms to human health, including premature death in people with heart or lung disease, aggravated asthma, decreased lung function, and increased respiratory symptoms, like irritation of the airways, coughing or difficulty breathing.<sup>82</sup> The World Health Organisation notes that "[s]mall particulate pollution [has] health impacts even at very low concentrations – indeed no

<sup>79</sup> See 2017 State of the Air Report [http://www.airqualitylekgotla.co.za/assets/2017\\_1.3-state-of-air-report-and-naqi.pdf](http://www.airqualitylekgotla.co.za/assets/2017_1.3-state-of-air-report-and-naqi.pdf).

<sup>80</sup> List of Activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage. Available at <https://cer.org.za/wp-content/uploads/2010/03/Listed-Activities.pdf>.

<sup>81</sup> Physicians for Social Responsibility, *Coal's Assault on Human Health*, (November 2009), p. 9, <http://www.psr.org/assets/pdfs/coins-assault-executive.pdf>.

<sup>82</sup> See e.g. US EPA website, Particulate Matter: Health, <https://www3.epa.gov/pm/health.html>.

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*threshold has been identified below which no damage to health is observed*".<sup>83</sup>

SO<sub>2</sub> can affect the respiratory system and the functions of the lungs and causes coughing, mucus secretion, aggravation of asthma and chronic bronchitis. It also makes people more prone to infections of the respiratory tract.<sup>84</sup>

#### *The climate impacts of Thabametsi*

94. The climate impacts of Thabametsi are set out in detail in Thabametsi's CCIA, the EOH Peer Review, and Earthlife's comments on the CCIA – referred to above.
95. Not only will Thabametsi be a significant contributor to climate change (nationally and globally), but, due to its very high emissions, it will also be exacerbating the impacts of climate change in the Lephalale area, by virtue of the fact that it will be utilising, and potentially polluting, scarce and limited water, which is needed by communities and the environment for climate adaptation and resilience.
96. As stated above, the GHG mitigation measures proposed by Thabametsi are wholly inadequate to achieve any material reduction of GHG emissions – short of implementing CCS (which is neither technologically nor financially feasible), it is not possible to substantially reduce Thabametsi's GHG emissions.
97. South Africa's National Climate Change Response White Paper acknowledges that South Africa is extremely vulnerable to the impacts of climate change; these impacts include: drying trends and increased droughts; temperature increases; degradation of soil quality (which in turn affects land productivity); and increased frequency and intensity of extreme weather events – which will disproportionately affect the poor.<sup>85</sup>

<sup>83</sup> WHO, Fact Sheet No. 313, Ambient (outdoor) air quality and health (Sept. 2016), <http://www.who.int/mediacentre/factsheets/fs313/en/>.

<sup>84</sup> *Ibid.*

<sup>85</sup> P8, National Climate Change Response White Paper.

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98. In paragraph 44 of the initial NERSA objections, I outlined South Africa's commitments under the Paris Agreement, which South Africa ratified in November 2016. South Africa's NDC states that near zero emissions are required in the second half of the century in order to avoid the worst impacts of climate change. Yet if Thabametsi is licensed, it would be emitting an enormous volume of GHGs into the second half of the century. This would clearly contradict our Paris Agreement commitments, which have already been criticised as inadequate to reach the 2 °C target.<sup>86</sup>

#### Licensing Thabametsi would be inconsistent with other laws

99. Due to the above health, climate, and environmental impacts, licensing Thabametsi would also be inconsistent with NEMA, particularly sections 2 (National Environmental Management Principles) – these are outlined in paragraph 40 of the initial NERSA objections - and 28 (duty of care), as well as the ERA, particularly the objectives in section 2.

#### **Licensing Thabametsi would not be in the public interest**

100. Section 10(1)(b) of NERA states that every decision of NERSA must be in writing and must be in the public interest.

101. In the initial objections, I explain that licensing Thabametsi would not be in the public interest because:

101.1. of the high financial burden it will impose on the state and consequently the public;

101.2. of the environmental human health and climate impacts;<sup>87</sup> and

<sup>86</sup> Climate Act Tracker rates South Africa's targets as "highly insufficient" see <http://climateactiontracker.org/countries/southafrica.html>.

<sup>87</sup> P22, initial objections to NERSA.

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101.3. it is not needed due to South Africa's renewable energy potential and reduced electricity demand.<sup>88</sup>

102. We, as Earthilfe stand by these objections. There is now even more evidence (such as the reports by Udall, Sahu, and Meridian) to show that licensing Thabametsi would be harmful, costly, highly risky, and unnecessary - and therefore not in the public interest.

103. I explain here again briefly that Thabametsi would not be in the public interest, mainly because:

103.1. it will increase the cost of electricity for consumers;

103.2. it will cause irreversible harm for the environment, climate and human health;

103.3. there is a likelihood that it will not be able to operate for its full anticipated lifespan – becoming a stranded asset – and also contributing to increased water scarcity in the area where it will be based; and

103.4. it is not needed.

Thabametsi will increase the costs of electricity for consumers

104. As shown above, electricity from new coal is already substantially more expensive than electricity from renewable energy sources.

105. I am advised that if Eskom is to buy expensive electricity from Thabametsi – this additional cost will simply be passed on to consumers.

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<sup>88</sup> P27, initial objections to NERSA.

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106. Furthermore, if the external costs of the health and environmental impacts of Thabametsi are taken into account (as they should be), Thabametsi will be even more expensive. In the circumstances, licensing Thabametsi would clearly not be in the public interest from a costs perspective.

Thabametsi will cause irreversible harm for the environment, climate, and human health

107. The health, climate, and environmental harms that will be caused by Thabametsi are already explained in detail above. These impacts alone should mean that the licensing of the power station would not be in the public interest.

Risk of Thabametsi becoming a stranded asset & diminishing an already-scarce water supply

108. There is a strong likelihood that there will not be sufficient water to meet Thabametsi's water needs for the expected duration of the power station's lifespan.

109. Thabametsi claims that, because it would be using water that has already been allocated to Exxaro, its water supply would be secure and that it would not contribute to further water scarcity.<sup>89</sup> This position is incorrect.

110. In 2015, the DWS had allocated 39.8 million m<sup>3</sup>/annum of water from the Mokolo Dam—which would supply Thabametsi—to various uses, exceeding its historic firm yield of 38.7 million m<sup>3</sup>/annum,<sup>90</sup> and the safe yield of the dam (39.1 million m<sup>3</sup>/annum).<sup>91</sup> The dam will be operating at a high risk until the commissioning (if this happens) of MCWAP2, which it expects to provide an additional flow ranging

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<sup>89</sup> 2017 IWULAR, section 2.3.7, 4.7., and 5.

<sup>90</sup> Ibid., Table 4.1.

<sup>91</sup> DWS, Limpopo Water Management Area North Reconciliation Strategy (Draft), Tables 6.2 and 4.1.

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from 75 to 100 million m<sup>3</sup>/annum.<sup>92</sup> However, water requirements in the Mokolo catchment are expected to exceed supply by 2019,<sup>93</sup> and MCWAP2, which has faced significant technical issues and delays, is unlikely to be completed by 2020, if at all.

111. Although initially scheduled to be commissioned in 2010,<sup>94</sup> the scoping phase of MCWAP2's EIA has only recently commenced (although it was initially scheduled to be completed in April 2017) after a series of delays due to technical issues. Almost a year later than planned, on 2 March 2018, Nema Consulting (the EAP dealing with the EIA process) notified interested and affected parties that the scoping report would be available for comment from 6 March 2018. It is still unknown when (if at all) MCWAP2 will be operational, and it is highly doubtful that it will be completed (even if it does obtain the necessary authorisations) by 2020 (2 years from now), as Thabametsi claims.

112. Thabametsi's own CCIA highlights water availability as a high risk, and the uncertainty of relying on MCWAP2, stating that *"MCWAP-1 (the Mokolo-Crocodile Water Augmentation Project, phase 1) is operating at a high risk until the water transfer infrastructure from the Crocodile (West) catchment, via the Mokolo Crocodile (West) Water Augmentation Project Phase 2 (MCWAP-2) is available. MCWAP-2 will rely on run-off from industrial users in the highly developed Crocodile River catchment, including those around the metropolitan areas of Johannesburg, Pretoria and Midrand, and there is some uncertainty in relation to the surplus that will be available from this catchment versus future demand in the Lephalale area."*<sup>95</sup>

113. It therefore cannot be said that Thabametsi has a secure water supply.

<sup>92</sup> Ibid., section 6.3.2.

<sup>93</sup> Ibid., section 6.3.2, Figures 7.2 and 7.3.

<sup>94</sup> Department of Water Affairs and Forestry, MCWAP Background information Document- Scoping Phase, <http://www.dwa.gov.za/Projects/MCWAP/Documents/BID%20-%20English%20Phase%202.pdf>.

<sup>95</sup> Px, Climate Resilience Assessment Report.

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114. Climate change is likely to further reduce water flows in the Mokolo and Crocodile West catchments.
115. Thabametsi's CCIA found that climate change is a high risk to the availability of water resources in the Mokolo Catchment.<sup>96</sup> It noted that climate change projections for the region indicate a likely increase in drought conditions and higher temperatures, which would reduce water availability. The Climate Resilience Assessment Report explained "*that climate-related variables will have an impact on water resources; notably, higher temperatures are likely to bring about increased evaporation losses from dams and rivers, and increased irrigation water requirements.*"<sup>97</sup>
116. Importantly, the Climate Resilience Assessment Report noted that climate change "*risks and impacts do not appear to be considered in the context of basin-level programs, including the Crocodile West River Reconciliation Strategy 2012 and the draft Limpopo WMA North Reconciliations Strategy 2016, both relevant to this project, adding uncertainty in the extent to which proposed allocations will be met in the context of a changing climate.*"<sup>98</sup>
117. The report of Brad Udall, attached marked "B2", further addresses the risks from climate change to the Mokolo and Crocodile West catchments. Udall's analysis finds that it is "virtually certain" that the Mokolo and Crocodile West catchment will warm in the 21<sup>st</sup> century, between approximately 2°C or 5°C, depending on how much GHGs humans emit,<sup>99</sup> and that this increased warming will reduce flows in both catchments significantly.<sup>100</sup> Udall also finds that flows will further decrease due to increase incidents of flash droughts.<sup>101</sup>

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<sup>96</sup> CRA pp. 31, 56 and p. xi.

<sup>97</sup> CRA, p. 31.

<sup>98</sup> CRA, p. 31.

<sup>99</sup> Udall Report pp. 10, 27.

<sup>100</sup> Udall Report p. 27.

<sup>101</sup> Udall Report, p. 27.

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118. In summary, the serious threats to Thabametsi's water supply, including from climate change, increase its risk of becoming a stranded asset.

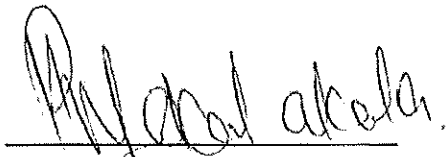
Thabametsi is not needed

119. Licensing Thabametsi in light of these harms is even more untenable as there is no need for additional generation capacity, particularly not from coal-fired power stations such as Thabametsi (see discussion in paragraphs 19, 29 and 30 above).

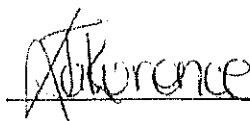
**CONCLUSION**

120. In terms of section 13(4) of ERA, NERSA is not obliged to issue a licence. In the circumstances, I strongly urge NERSA to exercise its discretion to refuse to issue the licence to Thabametsi.

121. I point out that NERA makes provision for NERSA decisions to be subject to judicial review in the High Court in accordance with PAJA, and to a High Court appeal when NERSA decisions are taken as a tribunal. Earthlife's rights in this regard are reserved.

  
 PHILLIPINE LEKALAKALA

Signed and sworn before me at Johannesburg on this the 23 day of  
March 2018, the deponent having acknowledged that she knows and  
 understands the contents of the affidavit, that she has no objection to taking the  
 prescribed oath and that she considers such oath to be binding on her  
 conscience.

  
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COMMISSIONER OF OATHS

EX OFFICIO:

FULL NAMES:

ADDRESS:

**Jessica Kayo Lawrence**

LLB(UJ)

Ex Officio Commissioner of Oaths

Lawyers for Human Rights

4th floor, Southpoint Corner Building

87 De Korte Street, Braamfontein

Johannesburg, 2001

Tel: (011) 339 1960; Fax: (011) 339 2665

A handwritten signature in black ink, appearing to be 'J. Lawrence', is located in the bottom right corner of the page.