

## Reference: PCEA – AQM

**PORTFOLIO COMMITTEE MEMO**

**BRIEFING BY THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS – APPLICATIONS FOR POSTPONEMENT TO COMPLY WITH MINIMUM EMISSIONS STANDARDS BY INDUSTRY**

**1. PURPOSE**

The purpose of this submission is to brief and update the Portfolio Committee regarding the status of the applications for postponement of compliance timeframes for all facilities whose applications have been considered and finalized by the National Air Quality Officer (NAQO) – with the concurrence of Atmospheric Emission Licensing Authorities – between 1 April 2014 and 31 March 2015; and the status of applications received thereafter (new applications). Thus, this memo addresses the following:

1. The Status of postponement decisions and reasons for granting decisions
2. Compliance status of postponement holders
3. Current postponement applications

### BACKGROUND AND DISCUSSION

2.1 The legal provisions for applications for postponement of compliance timeframes with the Minimum Emissions Standards (MES) are provided for in terms of a Section 21 Notice of the 31 March 2010 and its amendment version of 22 November 2013 published in terms of the National Environmental Management: Air Quality Act, 39 of 2004.

2.2 With regard to compliance timeframes with MES, Section 21 Notice stipulates that:

* New plants must comply with new plant emission standards immediately;
* Existing plants must comply with existing plant standards on 01 April 2015; and
* Existing plants must comply with new plant standards on 01 April 2020.

2.3 Similarly, as contemplated in the National Framework for Air Quality for Air Quality Management in the Republic of South Africa, published in terms of the Air Quality Act, applications for postponement of compliance timeframes may be made with the National Air Quality Officer.

2.4 Following the publications of the Section 21 Notice of 22 November 2013, facilities meeting the requirements for postponement submitted applications for consideration by the National Air Quality Officer from 1 April 2014.

2.5 A first batch of postponement applications totaling 33 applications was received between 1 April 2014 and 31 March 2015 and a second batch totaling 20 applications was received thereafter (that is from 1 April 2015 and now). Annexure A provides a consolidated status on all the applications received thus far. Annexure B provides a detailed status quo for the 33 applications (1st batch), while Annexure C provides reasons why postponement decisions were granted for the 1st batch.

2.6 As part of the approval conditions all the facilities were required to make commitments towards meeting the emission standards. In addition to this requirement all the 33 applications comprising the 1st batch were required to develop and submit compliance road maps on a quarterly basis, indicating progress towards implementing commitments towards meeting compliance targets as required in the approval decisions. The reporting requirements for the new applications (2nd batch) will start 12months from the date of the decision and will vary from application to application.

 2.7 From the status quo report, it is evident that some of the facilities will not be able to meet their postponement commitments. The facilities of concern remain the Eskom power stations to a large extent, Sasol, to a less extent.

2.8 With regard to Eskom power stations, there is clear evidence that some of the Utility’s power stations will not be able to meet some of the postponement targets. In summary, the following are the list of challenges faced by the Utility:

2.8.1 Delays in the procurement of abatement technology and equipment will lead to delays in the implementation of some of the planned project activities

2.8.2 Inadequate engineering and technical design capacity was cited as a contributing factor to potential project delays

2.8.3 Changes in some of the abatement technologies committed to was cited as a contributing factor in delays. High cost was cited as the contributing factor for the consideration of alternative technologies.

2.8.4 Due to the short remaining life span of some of the power stations, there were no commitments towards bringing these to compliance with the emission standards, some of which may have their lifespan extended by a further 10 years – an undertaking that was not raised during the postponement application and which Eskom claims no decision has been raised yet.

2.8.5 Poor project planning, management and execution utility.

2.8.6 Though some interventions have been proposed to deal with the above challenges such as bringing adequate or additional engineering capacity, in all likelihood some of the challenges would persist and thus leading to noncompliance with the postponement decision – a risk that the utility acknowledged existed

2.8.7 However, it is important to acknowledge some good progress that the Utility has made in relation to meeting some of the postponement targets. This relates to the development and implementation of Air quality Offsets Plan for Lethabo power station which is aimed at improving indoor air quality in the communities surrounding the power station.

2.9 With regard to Sasol the main issues of concern are as follows:

2.9.1 Undertaking a lot of studies to identify possible abatement technologies that will help some of the facilities to meet emission standards and possible saving on capital cost. These further investigations will extend beyond the initial timeframe applied for in the postponement applications. Therefore, the company is applying for further postponement on some of the facilities on which postponement has been already granted.

1. **RECOMMENDATIONS**

It is recommended that the Portfolio Committee notes:

* The Status of postponement decisions and reasons for granting decisions
* Compliance status of postponement holders
* Current postponement applications

**ANNEXURE A: Consolidated status on all the applications received**

| **FIRST BATCH POSTPONEMENT DECISION** | **NUMBER OF APPLICATIONS** | **COMPLIANCE STATUS** |   | **SECOND BATCH POSTPONEMENT DECISION** | **Number of Application** | **Date Issued** | **Compliance Date** | **COMPLIANCE STATUS** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total Limited (Bethlehem depot) | 1 | Project completed | BPSA (Cape Town depot) | 1 | Oct-16 | Sep-16 | Project completed |
| Total Limited (Polokwane depot) | 1 | Project completed | BPSA (East London depot) | 1 | Oct-16 | Sep-16 | Project completed |
| Shell Limited (Ladysmith fuel storage) | 1 | Project completed | BPSA (Watloo depot) | 1 | Oct-16 | Sep-16 | Project completed |
| Shell Limited (Polokwane fuel storage) | 1 | Project completed | Chevron SA Pty Ltd (Cape Town refinery) | 1 | Mar-16 | SO2 (1 April 2016 -31 July 2017) & TVOCs (1 April 2016 - 31 Mar 2020) | Decision is currently undergoing appeal process |
| Shell Limited (Kimberley fuel storage) | 1 | Updates ongoing | Chevron SA Pty Ltd (Port Elizabeth terminal) | 1 | Dec-16 | TVOCs (1 Dec 2016 - 31 March 2020) | Reporting requirement pending |
| Shell Limited (Port Elizabeth fuel storage) | 1 | Updates ongoing | Shell (Port Elizabeth terminal) | 1 | Feb-17 | TVOCs (1 Apr 2017 - 31 March 2020) | Reporting requirement pending |
| Anglo American Platinum Ltd (Polokwane Smelter) | 1 | Appeal process is ongoing | Silicon Smelters Pty Ltd (Rand Carbide) | 1 | Mar-17 | PM&SO2 (1 Mar 2017 -1 May 2019) | Reporting requirement pending |
| Anglo American Platinum Ltd (Mortimer Smelter) | 1 | Updates ongoing | Gledhow sugar mills | 1 | Mar-17 | PM (23 Mar 2017 -1 Nov 2019) | Reporting requirement pending |
| Engen Petroleum Ltd | 1 | Updates ongoing | Noodsberg sugar mills | 1 | Mar-17 | PM (23 Mar 2017 -28 Feb 2020) | Reporting requirement pending |
| PPC Limited (De Hoek plant) |  1 | Updates ongoing | Sezela sugar mills | 1 |  Mar-17 | PM (23 Mar 2017 -21 Dec 2019) | Reporting requirement pending |
| PPC Limited (Dwaalboom plant) | 1 | Updates ongoing | Sasol Limited (Secunda Synfuels Operations - Tar Value Chain) | 1 | Mar-17 | TVOCS (1 Apr 2017 -31 Mar 2020) | Reporting requirement pending |
| PPC Limited (Port Elizabeth plant) | 1 | Updates ongoing | AEL Mining Services Limited | 1 | May-17 | PETN/STILLS plant: NOx (24 Apr 2017 -30 Mar 2020), ANS 1 & 2: NH3 (24 Apr 2017 - 30 Mar 2020), NO.3 AN plant: NH3&PM (24 Apr 2017 - 30 Mar 2020) | Reporting requirement pending |
| PPC Limited (Slurry plant) | 1 | Updates ongoing | Quantum Crushing & Screening Pty Ltd | 1 | May-17 | PM (31 May 2017 -31 March 2019) | Reporting requirement pending |
| Sasol Limited (Sasol Secunda) | 1 | Updates ongoing | Vanchem Vanadium Products Pty Ltd | 1 | May-17 | SO2 (31 May 2017 -31 March 2022) | Reporting requirement pending |
| Sasol Limited (Sasol Infrachem) | 1 | Updates ongoing | **PPC De Hoek** | **1** | Pending |   |   |
| Sasol Limited (Sasol Nitro) | 1 | Updates ongoing | Palaborwa Copper |  1 | Pending |   |   |
| NATREF | 1 | Updates ongoing | PPC Riebeeck |  1 | Pending |   |   |
| Eskom Power Stations | 16 | Updates ongoing | Natref |  1 | Pending |   |   |
|  |  |  | Sasol Sasoburg | 1 | Pending |  |  |
|  |  |  | Sasol Secunda | 1 | Pending |  |  |
|  |  |  | Eskom Matimba | 1 | Pending |  |  |
|  |  |  | Eskom Medupi | 1 | Pending |  |  |
| **Total** | **33** |   | **Total** | **14/21** |   |   |   |
|   |   |   |   |   |   |   |   |
| Note: Total applications received for the first batch is 33 and postponement decision issued is 33 |   | Note: Total applications received thus far for the second batch is 21 and postponement decision issued is 14 |

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**ANNEXURE B: PROGRESS UPDATE ON THE STATUS OF POSTPONEMENT OF COMPLIANCE TIME FRAMES FOR APPROVED APPLICATIONS (1st BATCH)**

**Table 1A: Eskom Power Stations: Progress report on the 7 power stations for which compliance commitments were made**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **POWER STATTION** | **Postponement period granted**  | **LIMIT GRANTED wrt pollutant/s** | **ACTIVITY TO MEET COMPLIANCE AND TARGET DATE** | **PROGRESS** | **COMMENT** |
| Medupi | 1 April 2020-31 March 2025  | SO2: 3500mg/Nm3 | Retrofit-FGD | * FGD process basic design has been completed.
* Planning to conduct detail design work has been initiated.
* Rail siding detail designs has been completed. Specialist studies has been completed and highlighted risks with the proposed permanent disposal options evaluated.
 | Still on track, even though construction delays due to the project management related matters  |
| Majuba | 1 April 2020-31 March 2020  | SO2: 3200 mg/Nm3 | Installation of Low NOx Burner (LNB) | Basic designs completed 19 September 2016. Detailed designs will be done this year by Eskom Engineers, prior to the project moving to execution stage | Challenges of unspecified nature would lead to one of the units not meeting the compliance timeframe of 1 April 2025. Detailed information on how this would be resolved was not provided.  |
| 1 April 2015-31 March 2020  | NOx : 1500mg/Nm3 |
| Duvha | 1 April 2020-31 March 2025  | SO2: 2600mg/Nm3NOx: 1100mg/Nm3 | Installation of fabric filters.  | Eskom’s plans to install fabric filter plant on Units 4-6 have been cancelled. Instead, high frequency transformers will be installed, and the ESPs, DHPs and SO3 plants will be refurbished. Basic designs for HFT's pilot unit completed. On the FFP side, FFP and Dust Handling Plant (DHP) upgrade concept designs have been completed. Engineering is currently busy with basic designs for Unit 4 & 6. | Risk that units 4 and 6 will not be able to meet emission standards for new plants by 1 April 2020. Eskom plans to request a monthly emission limit for these units.  |
| Tutuka | 1 April 2015-31 March 2020 [Granted for existing plant standards] | PM: 350mg/Nm3 | Installation of fabric filters | PFMA information letter, advising DPE of increased costs, scope and time, beyond initial ERA has been submitted to the DPE. New PFMA application to be re-submitted to DPE awaits final internal approval before it can be sent to DPE | Delays due to procurement challenges will pose the risk on the last unit not complying with the 1 April 2021 timeframe. |
| 1 April 2015-31 March 2020  | NOx: 1200mg/Nm3 | Installations of LNB | Basic designs have been completed. Currently busy with detailed designs.  | On track |
| Kriel | 1 April 2015-31 March 2020 | PM: 350mg/Nm3 | Installation of fabric filters  | Basic designs completed. Extended basic/detailed design commenced with internal execution approval process | Delays associated with procurement challenges as a result of the new National Treasury Procurement process requirements and engineering technical design issues. Additional engineering design capacity has been sought to resolve some of the challenges.  |
| 1 April 2020-31March 2025 | SO2: 2800mg/Nm3 |
| 1 April 2015-31 March 2020 | NOx: 1600mg/Nm3 |
| Matla | 1 April 2015-31 March 2020 | PM: 200mg/Nm3 | Installation of fabric filters | The plans to install fabric filter plants on all units have been cancelled. Instead, the ESP upgrades will be completed on the remaining units, ESP high frequency transformers will be installed, and the DHPs and SO3 plants will be refurbished. Basic designs for HFT pilot completed. ERA for one pilot unit's HFT's approved. Sole source justification approved. On the FFP side, FFP and Dust Handling Plant (DHP) upgrade concept designs had been completed. | Risk that units will not be able to meet emission standards for new plants by 1 April 2020. Eskom plans to request a monthly emission limit for these units |
| 1 April 2015-31 March 2020 | NOx: 1200mg/Nm3 | Installations of LBN | Technology feasibility study and basic designs are underway towards finalisation. Currently starting detailed designs. | Last unit is at risk of not complying with the 1 April 2025 timeframe. |
| Grootvlei | 1 April 2015-31 March 2018 | PM: 350mg/Nm3 | Installation of fabric filters | First unit (Unit 3) retrofit has been completed and the unit commissioned in March 2016. Unit 2 retrofit with FFP started in August 2016. | On track |
| 1 April 2015-31 March 2020 | SO2: 3800mg/Nm3 |
| 1 April 2015-31 March 2020 | NOx:1200mg/Nm3 |
| Komati  | 1 April 2015-31 March 2020 | NOx: 1400mg/Nm3 | None | No commitments made. due to the fact that the facility has a short remaining life (scheduled to be decommissioned between 2024 and 2028 | N/A` |
| 1 April 2020-31March 2025 | SO2: 3200mg/Nm3 | None |
| Camden | 1 April 2015-31 March 2020 | SO2: 4000mg/Nm3 | None | LBN technology replacements have been completed on two units, with the third unit in progress as of December 2016. Five units are still to be retrofitted | No further commitment have been put in place due to the fact that the facility has a short remaining life (decommissioning scheduled for 2020-2023). However, the life span may be extended by a further 10 years |
|  | 1 April 2015-31 March 2020 | NOx: 1700mg/Nm3 | LBM |

**Table 1B: Eskom Power Stations: Progress report on the 9 power stations for which no compliance commitments were made**

| **Power Station** | **Postponement Decision** | **Decommissioning Dates** | **Postponement Commitments** |
| --- | --- | --- | --- |
| Pollutant | Limit (mg/Nm3) | Period | Original | New | Original | New |
| **Acacia** | NOX | 750 | 2020-25  | None | N/A | None as the facility is compliant with all the 2015 limits emission limits. | N/A |
| **Arnot** | SO2 | 2500 | 2020 -25 | 2020-21 | Uncertain  | No commitments were given during postponement application process as Eskom indicated that the decommissioning schedule for Arnot will be 2021-2029 as per 50-year life  |  Eskom is now saying that no decisions have yet been made as to when to decommission any power station. This leaves the matter open ended.  |
| NOX | 750 | 2020-25  |
| **Camden** | SO2 | 3500 | 2020-25 | 2020-21 | Uncertain  | No commitments were given during postponement application process as Eskom indicated that the decommissioning schedule for Camden will be 2020-2023 as per 50-year life  |  Eskom is now saying that no decisions have yet been made as to when to decommission any power station. This leaves the matter open ended.  |
| NOX | 750 | 2015-20 |
| **Hendrina** | SO2 | 3200 | 2020-25 | 2020-21 | Uncertain | No commitments were given during postponement application process as Eskom indicated that the decommissioning schedule for Hendrina will be 2020-2026 as per 50-year life | Eskom is now saying that no decisions have yet been made as to when to decommission any power station. This leaves the matter open ended. |
| NOX | 1200 | 2015-20 |
| **Kendal** | SO2 | 3200 | 2020-25 | None | N/A | No commitment was given by Eskom with respect to the postponement of compliance with the 2020 SO2 limit. The postponement decision was however clear that the power station will be required to comply with the 500 mg/Nm3 limit from 01 April 2025.  | PM emissions to be reduced through the installation of high frequency transformers, and the refurbishment of the electrostatic precipitators, SO3 plants and dust handling plants. No mention is made however on the plans to comply with the SO2 limit of 500 mg/Nm3 by 2025. |
| **Komati** | SO2 | 2600 | 2020-25 | 2024-25 | Uncertain | No commitments were given during postponement application process as Eskom indicated that the decommissioning schedule for Komati will be 2024-2028 as per 50-year life | Eskom is now saying that no decisions have yet been made as to when to decommission any power station. This leaves the matter open ended. |
| NOX | 1300 | 2015-20 |
| **Lethabo** | PM | 100 | Dec 2015 | None | N/A | No commitments were given as the problem at Lethabo power station related to operational matters that should be resolved before the postponement period expires.  | Extensive repairs have been performed on Lethabo’s ESP’s to repair the damage caused by the ash backlogs in November 2014. PM emission performance has improved as a result. PM emissions to be further reduced through the installation of high frequency transformers, an upgrade of the SO3 plants, and the refurbishment of the electrostatic precipitators and dust handling plants  |
| SO2 | 2600 | 2020-25 |
| NOX | 1300 | 2015-20 |
| **Matimba** | SO2 | 3500 | 2020-25 | None | N/A | No commitment was given by Eskom with respect to the postponement of compliance with the 2020 SO2 limit. The postponement decision was however clear that the power station will be required to comply with the 500 mg/Nm3 limit from 01 April 2025. | PM emissions to be reduced through the installation of high frequency transformers, and the refurbishment of the electrostatic precipitators, SO3 plants and dust handling plants. No mention is made however on the plans to comply with the SO2 limit of 500 mg/Nm3 by 2025. |
| **Port Rex** | NOX | 600 | 2020-25  | None | N/A | None as the facility is compliant with all the 2015 limits emission limits.  | N/A |

**TABLE 2: SHELL (PTY) LTD: Progress report on Shell facilities**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NAME OF FACILITY** | **Postponement period granted**  | **LIMIT GRANTED wrt pollutant/s** | **ACTIVITY TO MEET COMPLIANCE AND TARGET DATE** | **PROGRESS** | **COMMENT** |
| Shell Kimberly fuel storage facility | 1 April 2015-31 March 2017  | TVOCs:150mg/Nm340000mg/Nm3  | Retrofit- VRU | * Shell has embarked in a process to sell this facility.
* Storage of petrochemicals has been significantly reduced with current throughput not exceeding 50 000m3 per annum.
* Negotiations with potential buyers are being concluded with the deal planned to be finalized by the end of 2016.
 | Shell is in the process of selling this facility hence the installation of the VRU is not going to happen. |
| Shell Ladysmith fuel storage facility | 1 April 2015-31 March 2017 | TVOCs:150mg/Nm340000mg/Nm3  | Retrofit- VRU | * VRU has been installed and functioning optimally. The postponement application has been closed.
 | Target has been achieved by the facility. |
| Shell Polokwane fuel storage facility | 1 April 2015-31 March 2017 | TVOCs:150mg/Nm340000mg/Nm3  | Retrofit- VRU | * VRU has been installed and functioning optimally. The postponement application has been closed.
 |  Target has been achieved by the facility |
| Shell Port Elizabeth terminal | 1 April 2015-31 March 2017 | TVOCs:150mg/Nm340000mg/Nm3  | Retrofit- VRU | * The motivation for the postponement was that the site will be decommissioned and relocated to the new site by end of 2017, hence the postponement was granted till 2017. There has been new developments communicated by the TNPA that the lifetime at PE has been extended to 2019 as the new site (Coega IDZ) is not yet ready.
* Shell has applied for a new postponement until 2019 when the facility will be moved to the new terminal that will be equipped with a state-of-the-art Vapour Recovery Unit (VRU).
* The application has gone through the final review process with concurrence meeting held on 30 January 2017. Supporting documents which was required at the meeting was received 1 February 2017 and the NAQO’s decision will be made based on the review of the documents.
 | There is delay in the installation of the VRU due to the relocation of the tank farm by TNPA that has been shifted three times.  |

**TABLE 3: PPC: Progress report on PPC facilities**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NAME OF FACILITY** | **Postponement period granted**  | **LIMIT GRANTED wrt pollutant/s** | **ACTIVITY TO MEET COMPLIANCE AND TARGET DATE** | **PROGRESS** | **COMMENT** |
| PPC De Hoek Plant Finishing Mill 6 | 1 April 2015-31 December 2016 | PM: 100mg/Nm3 | Installation of a bag filter to replace existing ESP | Upgrade completed emissions below 10mg/Nm3 for PM. | Target has been achieved by the facility. However, PPC De Hoek has applied for a new postponement for SO2.  |
| PPC Dwaalboom PlantKiln 1 | 1 April 2015-31 December 2016 | PM: 200mg/Nm3 | Bag filter upgrade | Feasibility studies commenced for bag filter upgrade – upgrade to commence January 2017 | The facility has delays in their project hence they cannot meet the target of 31 December 2016 but the project is on track. |
| PPC Port Elizabeth PlantKiln 4PPC Port Elizabeth PlantFinishing Mill 4 | 1 April 2015-31 December 20181 April 2015-31 December 2016 | PM: 200mg/Nm3PM: 400mg/Nm3 | Installation of a bag filter to replace Kiln ESPInstallation of a bag filter to replace existing dust collector | EIA completed, feasibility study in progressEIA approved, upgrade completed, performance testing took place in July 2016 | On trackTarget has been achieved by the facility |
| PPC Slurry PlantKiln 7PPC Slurry PlantRaw Mill 3 | 1 April 2015-31 December 20181 April 2015-31 December 2018 | PM: 350mg/Nm3PM: 250mg/Nm3 | Upgrade of Kiln 8 while Kiln 7 is operational. Afterwards Kiln 7 is under care and maintenance | Construction of Slurry Kiln 9 commenced and progressing as planned Not running  | On trackNA |

**TABLE 4: ENGEN PETROLEUM: Progress report on Engen facilities**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NAME OF FACILITY****ENGEN** | **Postponement period granted**  | **LIMIT GRANTED wrt pollutant/s** | **ACTIVITY TO MEET COMPLIANCE AND TARGET DATE** | **PROGRESS** | **COMMENT** |
| Engen Petroleum Limited | 1 April 2015-31 March 2019 | PM: 140mg/Nm3 | Retrofit - FCCU Particulate Matter Compliance | * The Front End Engineering Design (FEED) phase of the project is in progress.
* The Engineering contractor for this phase has been appointed.
* Following completion of the FEED phase, the Detailed Engineering phase of the project will commence.
* This is planned for 2017.
 | On track |
| 1 April 2015-31 March 2016 | TVOCs:150mg/Nm340000mg/Nm3  | Installation of a Vapor Recovery Unit at Gasoline Rail Loading | Installation of the Vapour Recovery Unit has been completed at the rail loading facility. Unit is currently not in use (no gasoline loading taking place) and will be online when gasoline rail loading resumes. | Target has been achieved by the facility |
| 1 April 2015-31 March 2016 | TVOCs | Installation of internal floating roofs on 2 tanks within the Refinery viz X-239 and X-240 | Manufacturing of X-239 and X-240 internal floating roofs completed.Tank X240 was commissioned and is in service with internal floating roof in place.Tank X239 is currently not in use | Target has been achieved by the facility |

**TABLE 5: Progress report on Total Depot**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NAME OF FACILITY****TOTAL** | **Postponement period granted**  | **LIMIT GRANTED wrt pollutant/s** | **ACTIVITY TO MEET COMPLIANCE AND TARGET DATE** | **PROGRESS** | **COMMENT** |
| Total Polokwane depot | 1 April 2015-31 March 2016  | TVOCs:150mg/Nm340000mg/Nm3  | Retrofit- VRU | VRU order was completed in November 2014. VRU delivery was completed in August 2015. The installation of VRU is in progress.VRU was installed by the John Zink Company based in Luxembourg. It was commissioned on 25 August 2016 and declare safe and ready for use by the consulting engineering group JGP.  | Target has been achieved by the facility. |
| Total Polokwane depot | 1 April 2015-31 March 2016 | TVOCs:150mg/Nm340000mg/Nm3  | Retrofit- VRU | VRU was installed by the John Zink Company based in Luxembourg. It was commissioned on 25 August 2016 and declare safe and ready for use by the consulting engineering group JGP.  | Target has been achieved by the facility. |

**TABLE 6: Progress report on Anglo American**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NAME OF FACILITY****ANGLO AMERICAN PLATINUM (AAP)** | **Postponement period granted**  | **LIMIT GRANTED wrt pollutant/s** | **ACTIVITY TO MEET COMPLIANCE AND TARGET DATE** | **PROGRESS** | **COMMENT** |
| AAP – Mortimer Smelter | 1 April 2015-31 March 2020 | SO2: 30000mg/Nm3  | Retrofit- SO2 abatement equipment | AAP stack and ambient monitoring continues to measure compliance against the emission standard and reasonable comply with the 30 000mg of SO2 postponement limit. A “novel” technical solution for SO2 abatement and control will be developed that produces “useful” acid instead of another solid waste. | The installation of SO2 abatement equipment at Mortimer smelter is in progress. |
| AAP – Polokwane Smelter | 1 April 2015-31 March 2020 | SO2: 30000mg/Nm3 | Retrofit- SO2 abatement equipment | AAP lodged an appeal against the limit when the postponement was granted. In the appeal, it was requested that the limit be replaced with a monthly average of 57 000 mg/Nmᶟ SO₂. On 31 May 2016, AAP was informed that its appeal was dismissed. Subsequently, an application was made in the high court for an order directing that AAP is not required to comply with the limit pending the final determination of judicial review proceedings and this is still pending. | Polokwane Smelter’s SO2 limit is granted until 2020 at 30 000mg/Nm3, however AAP has appealed this limit and has proposed a higher limit of 57 000mg/Nm3 as Polokwane smelter is emitting above this up to 51 204mg/Nm3. |

**TABLE 7: Progress report for SASOL/NATREF**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NAME OF FACILITY****NATREF** | **Postponement period granted**  | **LIMIT GRANTED wrt pollutant/s** | **ACTIVITY TO MEET COMPLIANCE AND TARGET DATE** | **PROGRESS** | **COMMENT** |
| Sub-category 2.1(Combustion Installations – Furnaces; heaters and boilers) | 1 April 2015-31 March 2018 | PM – 180 mg/Nm3SO2 – 1200 mg/Nm3NOx – 520 mg/Nm3 | Retrofit-  | Installation of sample ports at the defined points of compliance was completed in September 2016. Initial measurements were taken during September 2016. The second test was conducted during December 2016 and the third party has confirmed it will provide the monitoring report to Natref in January 2017. The third test is planned for February 2017. A more conclusive position on baseline emission concentrations will be based on the comparative results of the three tests. | On track |
| Sub-category 2.1(Combustion Installations - Vacuum off-gas furnace) | 1 April 2015-31 March 2018 | PM – 180 mg/Nm3SO2 – 1200 mg/Nm3NOx – 520 mg/Nm3 | Retrofit-  | Technology screening and solution development is currently in progress, following which the project will enter the engineering phase on the selected solution. |  |
| Sub-category 2.2(Catalytic Cracking Unit - FCC) | 1 April 2015-31 March 2018 | PM – 180 mg/Nm3SO2 – 1200 mg/Nm3NOx – 520 mg/Nm3 | Retrofit-  | ESP technology was chosen as the optimal solution to meet existing and new plant standards. The feasibility study has been completed and business and project governance reviews were conducted from August to November 2016. The front end engineering design is scheduled to start in May 2017 after a competitive bidding process.The project is currently on track. | On track |
| Sub-category 2.3(Sulphur Recovery Unit - SRU | 1 April 2015-31 March 2020 |  |  | The pre-feasibility study has been concluded. Evaluation of alternative technical interventions is currently in progress in supplement to the pre-feasibility study. The project is on track to meet the standards. | On track |
| Sub-category 2.4(Storage & Handling of Petroleum Products – Tank farm) | 1 April 2015-31 March 2018 |  |  | The postponement application indicated that Natref would comply subject to implementation of the Clean Fuels 2 roadmap. Natref initially aligned its technology selection with the results of the detailed investigations undertaken by Secunda Synfuels Operations using Evapostop floating disc technology and had, through its own technology review, concluded that the Evapostop discs is the optimal solution to meet the Category 2.4 requirements. | However, pending support from the DEA on Evapostop discs as a long-term alternative technology, Natref is also investigating the feasibility of the installation of the MES prescribed technologies. |

**TABLE 7: Progress report for SASOL SECUNDA**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NAME OF FACILITY****SASOL-SECUNDA** | **Postponement period granted**  | **LIMIT GRANTED wrt pollutant/s** | **ACTIVITY TO MEET COMPLIANCE AND TARGET DATE** | **PROGRESS** | **COMMENT** |
| Sub-category 1.1(Steam station 1) | 1 April 2015-31 March 20201 April 2015-31 March 20251 April 2015-31 March 2020 | PM – 165 mg/Nm3SO2 – 2000 mg/Nm3NOx – 1450 mg/Nm3 | Retrofit-  | A project team is considering various technology options to meet the Minimum Emissions Standards including point source abatement and shut down scenarios.Technical work is ongoing to confirm practical capital expenditure and operational solutions to sustainably improve point source emissions and ambient impacts without unintended downstream socioeconomic implicationsFurther postponements may be required given significant technical challenges in meeting new plant standards by April 2020 – this will be confirmed closer to the time. | Have technical challenges |
| Sub-category 1.1(Steam station 2) | 1 April 2015-31 March 20201 April 2020-31 March 2025 | NOx – 1250 mg/Nm3SO2 – 1250 mg/Nm3 | Retrofit-  | As with PM, a project is being undertaken to investigate the feasibility of solutions like low NOx burner upgrades to meet existing and new plant standards, <750 mg/Nm3.We confirm that technology scans continue to be done via our Technology Management team to keep abreast of any new promising and feasible technology developments. |  |
| Sub-category 8.1(B6930 - High Sulphur pitch incinerator) | 1 April 2015-31 March 2018 | Various pollutants | Retrofit-  | Studies on how to comply with the MES continue to progress according to plan and a number of alternatives are being considered. | **(Further postponement application to be lodged in 2017)** |
| Sub-category 8.1(B6993 - Spent caustic incinerator) | 1 April 2015-31 March 2018 | Various pollutants | Retrofit- | This project is being run in parallel with the project investigating technology options for the high Sulphur pitch incinerator. A number of alternative solutions are being investigated. Although third party waste removal solutions currently appear promising, this solution is dependent on the results of the trial burns. |  |
| Sub-category 8.1(B6990 - Heavy end B incinerator) | 1 April 2015-31 March 2018 | Various pollutants | Retrofit- | As detailed in the initial postponement application, this incinerator faces significant space constraints. The age of the current installed technology is such that retrofitting with abatement equipment is physically impossible. Alternatives are being investigated to meet the existing and new plant standards. A number of alternative solutions are being considered. |  |
|  |  |  |  |  |  |

**ANNEXURE C: JUSTIFICATIONS FOR GRANTING POSTPONEMENT DECISIONS**

### Anglo America Platinum Mortimer, Rustenburg District Municipality, Northwest Province

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| **Section 21 Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application**  |
| **Subcategory 4.16:** Smelting & Converting of Sulphide Ores | Furnace Main Stack (Mort\_EF) | 2015 – 2020  | Sulphur Dioxide | Anglo American Platinum has prioritized compliance with the 2020 standard rather a phased-in approach that would result in capital expenditure for compliance with both the 2015 and then the 2020 limit later on. Anglo America Platinum argued that the postponement period will provide the necessary time for the planning, procuring, executing and commissioning the novel WSA sulphur dioxide abatement process and equipment. |

### Anglo America Platinum Polokwane, Waterberg District Municipality, Limpopo Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Section 21 Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application**  |
| **Subcategory 4.16:** Smelting & Converting of Sulphide Ores | Furnace Main Stack (Mort\_EF) | 2015 – 2020  | Sulphur Dioxide |  Anglo American Platinum has prioritized compliance with the 2020 standard rather a phased-in approach that would result in capital expenditure for compliance with both the 2015 and then the 2020 limit. It is argued that the postponement period will provide the necessary time for the planning, procuring, executing and commissioning the novel WSA sulphur dioxide abatement process and equipment. |

## Chevron Refinery, City of Cape Town, Western Cape Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Section 21 Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 2.1:** Combustion Installations  | FCCU | 2015 – 2020  | Sulphur Dioxide | * **Regulatory Uncertainty** – changes to the original MES published in 2010 resulted in regulatory uncertainty that complicated compliance assurance planning and hampered capital investment decisions especially in the Petroleum Sector where the amendment process introduced substantive changes to the MES.
* **Risk to Fuel Supply Security** - any unscheduled shutdown of the Cape Town Refinery or any of its components poses a risk of compromising South African Fuel Supply.
* **Complex Engineering Intervention** - inclusion of the point source compliance requirement for SO2 from the process furnaces in the November 2013 MES left the Cape Town Refinery with less than 18 months to comply with a substantial new MES requirement. Due to the detailed engineering, the construction timeframes and shutdown planning required to implement the changes to route the process off gas away from 02F201, there is insufficient time before 01 April 2015 to do so.
* **Installation on the Run Posing Safety Risk:** Sleeves on Floating Roof Tanks – in order to fit the sleeves the roof needs to be stationary. Furthermore, slotted pipes and/or dipping wells can only be fitted with sleeves when the tanks are empty. The Cape Town Refinery is therefore proposing using the floating roof tanks’ statutory primary inspection turnaround to install the sleeves. This will however require fitment of the sleeves after 2015 for some of the tanks.
 |
| **Subcategory 2.4:**Storage & Handling of Petroleum Products | 41 floating roof tank | 2015 -2016 | Total Volatile Organic Compound (TVOCs) |

## Engen Refinery, eThekwini Metro, KwaZulu-Natal Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Sub-Category 2.2:**Catalytic Cracking Unit | FCCU | 2015 – 2019  | Particulate Matter | **Ongoing Negotiations and Timing of Regulations** Following the initial publication of MES for listed activities in 2010, there was still extensive consultation and negotiation in progress between affected industry groups, civil society and government until late 2013. This led to the amended MES being published on 22 November 2013, with a requirement for existing plants to meet the existing plant standard by 1 April 2015 despite motivations from the petroleum industry via SAPIA for this first compliance date to be moved by a few years. Affected industries were thus left with less time (only 16 months) to design and engineer solutions in line with the amended standards.**Engineering and Implementation**A capital project estimated at R1.7 billion has been initiated by the Refinery to meet the MES and this project is underway. Based on the capital investment processes and sound governance principles required at each of the engineering process, it has not been possible to progress the project to the levels of detail required until the official notice regarding MES requirements was published on 22 November 2013. In order to comply with the PM and VOCs MES, the available technology needs to be reviewed and selected prior to design and engineering. The technology solution needs to be designed according to our Refinery rates, configurations and operating data. In some cases, the selected technology has to be obtained internationally, thus procuring these items takes time In addition, an Environmental Impact Assessment is required, according to environmental regulations, prior to the execution and commissioning of the PM reduction project. The EIA may take 18 months to complete, making it impossible to commission the project by the deadline of 1st April 2015. The EIA is also necessary to ensure that by reducing air emissions, other environmental impacts are not significantly increased. Once designed and procured, time must be allowed for construction, installation, commissioning and testing of the solutions. Optimisation is also required to achieve the required outcomes. Other considerations include the fact that tie-ins of equipment and construction phases of the project require a partial or complete Refinery shut down to execute, which must be planned in a manner that does not disrupt fuel supply within the country. It is critical that the design and planning be done in sufficient detail and according to good engineering principles to ensure the desired targets of reduction are actually met and maintained for the long term..  |
| **Subcategory 2.4:**Storage & Handling of Petroleum Products | Rail loading facility   | 2015 -2016 | Total Volatile Organic Compound (TVOCs) |
| **Subcategory 2.4:**Storage & Handling of Petroleum Products | Two (2) storage tank | 2015 -2016 | Total Volatile Organic Compound (TVOCs) |

## Eskom Power Stations

### Eskom Acacia Power Station, Buffalo City Municipality, Eastern Cape Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.2:** Liquid Fuel Burning Appliances | 6 Units  | 2015-2020 | NOX | Eskom provided the following reasons for the Acacia postponement application:* Load factor: Acacia is a peaking station, which is only used infrequently in emergency situations. The average number of hours for which each engine at Acacia operated in the last two financial years (1 April 2011 to 31 March 2013) is 43.6 hours and the corresponding load factors is 0.50%. In the last two years, each engine operated on average for 44 hours a year, i.e. for less than two days a year.
* Age of power station: The three units at Acacia were commissioned in 1976. They are thus now 37 years old. Although the decommissioning date of Acacia is not fixed, planning is typically done according to a 50-year life, which means that Acacia may be decommissioned around 2026.
* Impact on ambient air quality: There are multiple sources of atmospheric emissions in Cape Town including industrial emissions which derive most notably from the Caltex oil refinery in Milnerton, and motor vehicle emissions. Cape Town has a specific air quality problem, which is known as ‘brown haze’ which occurs during stable atmospheric conditions. Various studies have highlighted that the brown haze is derived principally from emissions from diesel vehicles.
* Cost implication of compliance with the MES: Considering that Acacia is an emergency power station and each engine runs for less than two days a year, on average, and the fact that Acacia has a negligible impact on ambient air quality, there is little benefit in retrofitting de-NOx technology at Acacia. This is further motivated by the direct financial costs of achieving compliance with the Minimum Emission Standards at all Eskom’s power stations. NOx emission reduction is estimated to cost between R10 and R40 billion for all power stations.
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### Eskom Arnot Power Station, Nkangala District Municipality, Mpumalanga Province

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| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PMSO2NOx | * Water availability: Both wet and semi-dry FGD are critically dependent on the availability of large quantities of water being available at the power stations where FGD is deployed. Also the water demands of FGD increase the water required by a wet-cooled power station like Arnot by some 1.3 times (around 27 million m3/annum without FGD, to more than 36 million cubic meters per annum with wet FGD). The Arnot Power Station being a wet-cooled power station already uses large quantities of water. There is currently no additional water available to operate FGD at Eskom’s power stations. Additional water will only become available when the second phase of the Lesotho Highlands project has been completed, which is currently scheduled for 2021. The argument is also not just one of having water available in the catchment, it is also one of determining whether FGD is a judicious use of what is an extremely scarce resource in South Africa in the face of multiple competing demands for that same resource. More than 98% of South Africa’s available water has already been allocated.
* Environmental implications of FGD: FGD is not without negative environmental consequences-
1. Up to 200 000 tons of sorbent (limestone) per annum is required to operate the FGD. The main source of sorbent is the Northern Cape, so the sorbent would need to be transported over hundreds of kilometres, preferably by rail or otherwise by road. The transport of the sorbent would result in environmental impacts, notably greenhouse gas emissions, and fugitive dust emissions. An increase in truck traffic would also result in an increase in driver mortalities, as has been observed in association with coal transport in Mpumalanga.
2. Up to 360 000 tons of gypsum will be produced per annum as a by-product of the FGD process. If a high quality limestone is used, a high quality gypsum can be produced by wet FGD, and this could be taken up by the market for e.g. wallboard production. Lower grade gypsum can also be used for agricultural purposes. However, if there is not sufficient demand from the market, the gypsum will need to be disposed of in which case it would need to be managed carefully to ensure that there are no impacts on groundwater or air quality (from fugitive dust emissions).
3. Arnot is expected to produce an additional approximately 90 000 tons of CO2 per annum, as the wet FGD process directly produces CO2 as a by-product through the reaction: SO2 + CaCO3 → CaSO4 + CO2. In addition, the electricity output of Arnot would be reduced by around 1% due to the additional auxiliary power requirements of the FGD, and correspondingly the relative CO2 emissions would increase by 1%.
* Age of power station: Arnot is currently scheduled to be decommissioned between 2021 and 2029, according to the 50-year life currently planned for in the Integrated Resource Plan. There is a chance that decommissioning could start in 2031 if the power station life is extended to 60 years. An FGD retrofit could only commence in 2022 at the earliest, when water becomes available. Typically, one unit per year is retrofitted. Furthermore, there are other power stations which are higher priority for retrofits (given Arnot’s small size). It thus makes no sense to spend many billions of rands on a power station which will only run for about 2 years once the retrofits have been completed.
* Impact on ambient air quality: DEA established an ambient air quality monitoring station at Hendrina in 2010 measuring, amongst others, ambient SO2, NO2 and PM10 concentrations and meteorological parameters. The impact of Arnot’s emissions on ambient air quality has been comprehensively assessed in the accompanying independently compiled Atmospheric Impact Report. It can be seen from the measured ambient air quality measurements from the Hendrina monitoring station that both SO2 and NO2 comply with the NAAQS for the various averaging periods, but PM10 is seen not to comply. Ambient daily PM10 concentrations indicate sustained high loading and non-compliance with the PM10 NAAQS. Analysis of diurnal data shows that the Arnot Power Station does not contribute significantly to ambient PM10 and that the exceedances derive from ground level emissions such as domestic fuel use.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
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**Eskom Camden Power Station, Gert Sibande District Municipality, Mpumalanga Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: Both wet and semi-dry FGD are critically dependant on the availability of large quantities of water being available at the power stations where FGD is deployed. The reader is reminded that the water demands of FGD increase the water required by a wet-cooled power station like Camden by some 20% (around 20 million m3/annum without FGD, to more than 23 million cubic metres per annum with wet FGD). The Camden Power Station being a wet-cooled power station already uses some 3 times the quantity of water that it does in coal. There is currently no additional water available to operate FGD at Eskom’s power stations. Additional water will only become available when the second phase of the Lesotho Highlands project has been completed, which is currently scheduled for 2021. The argument is also not just one of having water available in the catchment, it is also one of determining whether FGD is a judicious use of what is an extremely scarce resource in South Africa in the face of multiple competing demands for that same resource. More than 98% of South Africa’s available water has already been allocated.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Age of power station: Camden’s decommissioning is scheduled to start in 2020. An FGD retrofit could only commence in 2022 at the earliest, when water becomes available, so it is simply not possible to retrofit FGD at Camden before it is decommissioned. It also does not make sense to install de-NOx technology given the short remaining power station life.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Duvha Power Station, Nkangala District Municipality, Mpumalanga Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement****Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | **PM** | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| **SO2** |
| **NOx** |

**Eskom Grootvlei Power Station, Gert Sibande District Municipality, Mpumalanga Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Age of power station: Grootvlei is currently scheduled to be decommissioned between 2025 and 2028, according to the 50-year life currently planned for in the Integrated Resource Plan. There is a chance that decommissioning could be delayed by a few years, depending on the demand for electricity. An FGD retrofit could only commence in 2022 at the earliest, when water becomes available. Typically, one unit per year is retrofitted. Furthermore, there are other power stations which are higher priority for retrofits (given Grootvlei’s small size). It thus makes no sense to spend many billions of rands on a power station which will only run for 2 years or so once the retrofits have been completed.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Hendrina Power Station, Nkangala District Municipality, Mpumalanga Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement****Period Sought** | **Pollutant**  | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Age of power station: Hendrina is currently scheduled to be decommissioned between 2020 and 2026, according to the 50-year life currently planned for in the Integrated Resource Plan. There is a chance that decommissioning could end in start in 2030 if the power station life is extended to 60 years. An FGD retrofit could only commence in 2022 at the earliest, when water becomes available. Typically, one unit per year is retrofitted. Furthermore, there are other power stations which are higher priority for retrofits (given Hendrina’s small size). It thus makes no sense to spend many billions of rands on a power station which will only run for a few more years at most once the retrofits have been completed.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Kendal Power Station, Nkangala District Municipality, Mpumalanga Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Komati Power Station, Nkangala District Municipality, Mpumalanga Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutants** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Age of power station: Komati’s decommissioning is scheduled to start in 2024. An FGD retrofit could only commence in 2022 at the earliest, when water becomes available, although there are other power stations which are higher priority (given Komati’s small size). Typically, one unit per year is retrofitted. It thus makes no sense to spend billions of rands on a power station which will only run for a year or two once the retrofits are installed, before it is decommissioned.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Kriel Power Station, Nkangala District Municipality, Mpumalanga Province**

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| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement** **Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Remaining power station life: If Kriel is decommissioned after 50 years, as is planned according to the current Integrated Resource Plan, the units at Kriel will be decommissioned between 2026 and 2029. The short remaining power station life means that, were low NOx burners and flue gas desulphurisation to be retrofitted, there would be very few years for the benefit of the emission reductions to be realised, and for the investment to pay off. The earliest that low NOx burners could be retrofitted is between 2018 and 2023, although it is more likely that the retrofits could be done a year later than that. This means that each unit would only operate for 7 years with the low NOx burners before it is decommissioned. The situation is even more marked for FGD. An FGD retrofit could occur at the earliest between 2021 and 2026 (and even then, it could be argued that there are higher priority stations which should be retrofitted first). In that case, each unit would only run with FGD for around 4 years before it is decommissioned.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Lethabo Power Station, Fezile Dabi District Municipality, Free State Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement****Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Majumba Power Station, Gert Sibande District Municipality, Mpumalanga Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement****Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Matimba Power Station, Limpopo Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement****Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

**Eskom Matla Power Station, Nkangala District Municipality, Mpumalanga Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement****Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units | 2015-2020 | PM | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
* Age of power station: The decommissioning of Matla is scheduled for 2029-2033. It makes little sense to install huge retrofits (which will further reduce the efficiency of the power station) and spend billions of rands to reduce emissions, when the power station will only be run for a few more years before it is decommissioned.
 |
| SO2 |
| NOx |

**Eskom Medupi Power Station, Limpopo Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement****Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM | * Water availability: Due to the delay in the commissioning of the Medupi Power Station, water availability is no longer a constraint for the operation of FGD on three units at Medupi. However, water availability for the operation of FGD was a constraint when the power station construction schedule was developed. Medupi Power Station requires a total of 15.4 million cubic metres of water per annum, based on the manufacturers’ stated water requirements - 6 million cubic metres per annum is for power production and 9.4 million cubic metres per annum is for FGD. The available water in Mokolo Dam and the water allocation to Eskom is sufficient to meet Medupi’s operational requirements but not all the FGD requirements. As can be seen from above, the retrofitting of the FGD units after commissioning of the boiler unit is related to ensuring security of water supply and therefore Medupi has been constructed to be FGD-ready. It is not possible to bring the retrofit forward, given that the environmental approval process, design and engineering, procurement processes and securing of limestone still need to be completed.
* Impact on ambient air quality: The effect of SO2 emissions from Medupi on ambient air quality is discussed comprehensively in the Atmospheric Impact Report. Dispersion modelling indicates that ambient SO2 concentrations resulting if Medupi continuously runs at the requested emission limit are below the respective NAAQS. However, when Matimba and Medupi emissions are combined, large areas of non-compliance with the 24-hourly and hourly SO2 NAAQS are predicted. Although these large areas of potential non-compliance cannot simply be discounted, the modelling configuration would almost certainly result in an exaggeration of the predicted ambient concentrations both spatially and temporally. In addition the maximum emissions would prevail for no more than two years at worst before SO2 emissions would start to reduce and ultimately comply fully with the MES over time as FGD is retrofitted. Finally the areas of predicted non-compliance extend over generally low population densities although it must be recognised that the residential area of Marapong is potentially affected. In these terms decision-makers should recognise that an unacceptable health risk may prevail as a result of Eskom’s requested interim emissions limits for Medupi. If this unacceptable risk does manifest it will be relatively short lived, and last for no more than two years after full commissioning of Medupi. An assessment of measured ambient air quality at the Marapong and Grootstryd monitoring stations has revealed full compliance with the SO2 NAAQS currently, with a marginally higher SO2 loading at the Grootstryd site which is downwind of the power station.
 |
| SO2 |
| NOx |

**Eskom Port Rex Power Station, ## District Municipality, && Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.2:** Liquid Fuel Burning Appliances | 6 Units  | 2015-2020 | NOX | * Load factor: Port Rex is a peaking station, which is only used infrequently in emergency situations. The average number of hours for which each engine at Port Rex operated from 2009 to 2012 is 22.6 hours and the corresponding load factors is 0.25%. From 2009 to 2012, each engine operated on average for 23 hours a year, i.e. for less than one day a year.
* Age of power station: The three units at Port Rex were commissioned in 1976. They are thus now 37 years old. Although the decommissioning date of Port Rex is not fixed, planning is typically done according to a 50-year life, which means that Port Rex may be decommissioned around 2026.
* Impact on ambient air quality and human health
* Cost implication of compliance with MES: Considering that Port Rex is an emergency power station and each engine runs for less than one day a year, on average, and the fact that Port Rex has a negligible impact on ambient air quality, there is little benefit in retrofitting de-NOx technology at Port Rex. This is further motivated by the direct financial costs of achieving compliance with the Minimum Emission Standards at all Eskom’s power stations. NOx emission reduction is estimated to cost between R10 and R40 billion for all power stations. This includes low NOx burner retrofits at stations which need them, and burner optimisations at others, as detailed in Section 8 below. While the cost of retrofitting NOx abatement at Port Rex is relatively small in this context, the benefit of incurring the costs for Port Rex is highly questionable. The reader is also referred to Annexure E in which an independent assessment has been conducted of the costs of retrofits proposed by Eskom to ensure that these costs have not been exaggerated. It can be seen from that assessment that the costs presented here are deemed to be an accurate presentation.
 |

**Eskom Tutuka Power Station, ## District Municipality, && Province**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | 6 Units  | 2015-2020 | PM100 | * Water availability: same reason was given as written above for Arnot power station.
* Environmental implications of FGD: same reason was given as written above for Arnot power station.
* Impact on ambient air quality: same reason was given as written above for Arnot power station.
* Cost implication of the compliance with the MES: These undesired consequences together with the financial costs of compliance (such as an increase in the electricity tariff) must be weighed up against the benefits that will accrue as a result of compliance with the MES. It is Eskom’s view that the benefit of compliance does not justify the non-financial and financial costs of compliance.
 |
| SO2 |
| NOx |

## PPC Facilities

### PPC De Hoek, West Coast District Municipality, Western Cape Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Emission limits** | **Justification & Reasons for Postponement Application** |
| **Subcategory 5.4:** Cement Production (using conventional fuels & raw materials) | Finishing Mill 6  | 2015 – 2016  | Particulate Matter | Since the introduction of the NEMAQA, PPC has undertaken several upgrades at its operating plants, in order to meet the MES, at its various plants across the country. These include:* De Hoek Kiln 5 ESP to Baghouse - R48 million
* De Hoek Kiln 6 ESP to Baghouse - R280 million
* PPC Lime Acres Kiln 5&6 ESP to Baghouse - R31 million
* Slurry FM 4 baghouse - R80.5 million
* Sonex Mill baghouse - R12 million
* Jupiter Finishing Mill Upgrade -R2.7 million
* Slurry Coal Handling fugitive emission - R20 million
* Hercules Coal handling fugitive - R12 million

In order to achieve the Minimum Emissions Standards PPC **De Hoek** commits to replacing the Finishing Mill 6 ESP with a bag filter unit. The bag filter efficiency is independent of particulate temperature, and has been proven to work effectively on finishing mill 5. The proposed replacement will occur in 2016, whereas the emissions standards must be met by 01 April 2015. The proposed upgrades require capital input which PPC can only practically access in the 2016 calendar year. This capital constraint arises as a result of various factors, which include:* Significant investment already committed in upgrading various
* Facilities across PPC’s plant’s in South Africa, to meet the Minimum
* Emissions Standards, and improve plant efficiency, as noted above.
* Availability of capital as a result of current globally experienced
* Economic uncertainties
 |

### PPC Dwaalboom, North West Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Emission limits** | **Justification & Reasons for Postponement Application** |
| **Subcategory 5.5:** Cement Production (Using alternative fuels and raw material) | Kiln 1 | 2015 – 2016  | Particulate Matter | Similar to the De Hoek application, PPC indicated the amounts already invested in all of its operation across the country and provided the following detail for Dwaalboom site: In order to achieve the Minimum Emissions Standards **PPC Dwaalboom** commits to thefollowing:* Replacing the Kiln 1 cooler in by the end of 2015.
* Additional modifications/repairs to existing equipment during 2014 and 2015 to ensure that the 80mg/Nm3 particulate emission limit is met.
* Installation of a bag filter on Kiln 1 by the end of the 2018 calendar year to reach the required 30 mg/Nm3 PM emission limit

  |

### PPC Port Elizabeth, Nelson Mandela Metro, Eastern Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 5.4:** Cement Production (using conventional fuels & raw materials) | Finishing Mill 6  | 2015 – 2016  | Particulate Matter | Similar to the De Hoek application, PPC indicated the amounts already invested in all of its operation across the country and provided the following detail for Port Elizabeth site: **PPC Port Elizabeth** commits to replacing the existing finishing mill 4 filter with a modern bag filter unit capable of meeting the emissions standards. The proposed replacement will occur in 2016, whereas the emissions standards must be met by 01 April 2015. PPC also commits to replacing the kiln ESP with a bag filter plant by the end of 2018.  |

### PPC Slurry, Limpopo Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant**  | **Justification & Reasons for Postponement Application** |
| **Subcategory 5.4 & 5.4:** Cement Production (Using conventional & alternative fuels & raw material) | Raw Mill 3 | 2015 – 2020  | Particulate Matter | Similar to the De Hoek application, PPC indicated the amounts already invested in all of its operation across the country and provided the following detail for Limpopo site: **PPC Slurry** An upgrade of Kiln 7 requires capital input which PPC can only practically commit to if market conditions support operation of kiln 7 after the kiln 8 upgrade. It is planned that kiln 7 will stop operation after the upgrade of kiln 8 in 2018. The upgrade will also ensure that the emissions from the mills become compliant. Significant investment in kiln 7 is thus not economically justifiable for such a short operational time span. Approximately R20 million has been invested in improving the coal handling emissions for the plant. |
| Kiln 7  |

## Sasol Facilities

### Sasol Nitro, ## District Municipality, && Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement****Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Category 6:**Organic ChemicalsIndustry | MMAN Stack | 2015 – 2020  | Mono-Methyl Amine |  | * The reasons for applying for postponement are based on timing constraint i.e. the time it will take Sasol Nitro to complete technical investigations, and approve, obtain necessary authorisations for, and fully implement the abatement interventions needed to comply with the MES.
* Prior to the publication of the initial MES in 2010 there had been no regulatory limits on amine emissions. When the first MES were published in 2010 Sasol Nitro started investigating the efficacy of the existing emissions abatement measures in place to determine what additional measures might be required in order to fully comply with the newly published limits. These investigations led Sasol Nitro to implement various process modifications which were successful in reducing MMA emission.
* In order to comply with new plant standards under all normal operating conditions, an effective solution to address the downstream process of the condenser’s additional effluent volumes must be identified, designed, approved, obtain necessary authorisations, be built and commissioned. The completion of the Basic Assessment and the completion of the design, all take time and would have to be completed before construction could commence. As a result, an upgrade to the site’s effluent management system would not be completed before the existing plant standards compliance deadline of April 2015.
* Due diligence obligations: Sasol has an established project development and governance framework to manage an extensive portfolio of capital projects, which is a “stage-gate” model.
 |

### Sasol Secunda, ## District Municipality, && Province

| **Category** | **Appliance** | **Postponement** **Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| --- | --- | --- | --- | --- |
| **Subcategory 1.1:** Solid Fuel Burning Appliances | Steam Plant | Various | PM | * Sasol’s environmental management policy: Legal compliance is of paramount importance to Sasol, and it is for this reason that Sasol is submitting applications as provided for in law to ensure its compliance in relation to MES that will be imposed on its listed activities. Sasol has a history of proactive environmental performance improvements and in respect of air quality management has significantly reduced atmospheric emissions from its various facilities in line with a risk-based environmental improvement approach, regardless of whether or not such emissions reductions were required in law. For that reason numerous of the emissions from Sasol’s various facilities already comply with much of the MES. In addition, and in response to the outcome of the Highveld Priority Area (HPA) assessment and Air Quality Management Plan (AQMP), Sasol Synfuels voluntarily committed to certain emissions reductions for the furtherance of ambient air quality improvements.
* Integrated nature of Sasol’s activities: Sasol’s fuel and chemical value chains are intimately integrated, within the Sasol Synfuels process, for example, the extensive linkages means that decisions to retrofit or modify components of the process have to consider all possible upstream and downstream knock-on effects. These knock-on effects, if not properly assessed and managed, could result in significant process disruptions for a whole range of other Sasol activities. Such assessments render emissions abatement choices complex and time consuming.
* Inadequate time due to the changes in regulations: After the MES were published in the 2010 Regulations, amended MES were published in GN 893 in November 2013 without any change in the prescribed compliance timeframes. A range of altered compliance requirements was introduced in the 2013 MES obliging emitters to assimilate the new requirements, investigate the different abatement options, decide on suitable abatement, motivate for and receive financial approval, appoint service providers to implement the abatement technology, design, construct and commission the new equipment, all within the space of some 16 months.
* Due diligence obligations: Sasol has an established project development and governance framework to manage an extensive portfolio of capital projects, which is a “stage-gate” model.
* Modifying a brownfields operation: Modifying an existing brownfields operation is considerably more challenging than building a new greenfields plant. In the case of a greenfields plant the entire plant can be designed in a manner that caters for all requirements and the plant can be conceptualised and ‘packaged’ in a specific way. In the case of a brownfields operation that benefit does not exist, and every modification or retrofit has to be developed around the existing plant.
 |
| SO2 |
| NOX |
| **Subcategory 2.2:** Catalytic Cracking Unit | Superflex Catalytic Cracker  | 2015 – 2021  | PM |
| **Subcategory 2.4:**Storage & Handling of Petroleum Products | **Storage Tanks**(Sasol Synfuels)  | **2015 -2020** | **TVOCs** |
| **Subcategory 2.4:**Storage & Handling of Petroleum Products | **Storage Tanks** **(Sasol Oil)**  | **2015 -2020** | **TVOCs** |
| **Subcategory 2.4:**Storage & Handling of Petroleum Products | Loading Station | 2015-2020 | **TVOCs** |
| **Subcategory 3.6**Synthetic Gas Production & Cleanup  | **Rectisol & Sulphur Recovery Plants** | **2015-2020** | **H2S** |
| **TVOCs** |
| **SO2** |
| **Subcategory 3.6**Synthetic Gas Production & Cleanup | **Phenosolvan** | **2015-2020** | **TVOCs** |
| **Subcategory 3.3 and 3.6**Tar Processes Synthetic Gas Production & Cleanup | **Sources in Tar Value Chain-Value 1** | 2015-2020 | TVOCs |
| **Subcategory 3.3:** Tar Processes | **Sources in Tar Value Chain-Value 2** | **2015-2020** | **TVOCs** |
| **Category 6:**Organic ChemicalsIndustry | Storage tanks(Sasol Solvents) | 2015-2020 | TVOCs |
| **Sub-category 7.2:**Production of Acids | Wet Sulphuric Acid Plant   | 2020-2025 | **SO2** |  |
| **SO3** |
| **Sub-category 8.1:** Thermal Treatment of Hazardous & General Waste | HOW Incinerators | **2015-2020** | **PM** |  |
| **NOx** |
| **HF** |
| **HM** |
| **Hg** |
| **Cd & Ta** |
| **TOC** |
|  |  |  | Exit gas temperatures must be maintained below 200ºC |  |
| **Sub-category 8.1:** Thermal Treatment of Hazardous & General Waste | **Biosludge****Incinerators** | **2015-2020** | **PM** |  |
| **CO** |
| **SO2** |
| **NOX** |
| **HF** |
| **HCl** |
| **HM** |
| **Hg** |
| **TOC** |
| **NH3** |
|  |
| **Sub-category 8.1:** Thermal Treatment of Hazardous & General Waste | **Sewage solids****incinerator****(Sasol Synfuels)** | **2015-2020** | **PM** |  |
| **CO** |
| **SO2** |
| **NOX** |
| **HF** |
| **HCl** |
| **HM** |
| **Hg** |
| **Cd & Ta** |
| **TOC** |
| **NH3** |
| **D & F** |
| Exit gas temperatures must be maintained below 200ºC |
|  |  |  |  |  |

### Sasol Infrachem, ## District Municipality, && Province

| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| --- | --- | --- | --- | --- |
| **Sub-category 8.1:** Thermal Treatment of Hazardous & General Waste | **B6930****(Sasol Infrachem)** | **2015-2020** | **PM** | * The reasons for applying for postponement are based on the time it will take Sasol Infrachem to complete technical investigations, approve and fully implement the intervention needed to reduce the exit gas temperature to below 200ºC, to comply with the MES.
* Mitigating risks of dioxin formation from higher exit gas temperatures
* Technology options and development schedule for compliance with special arrangement for Incinerator B6990: In the current plant configuration there are significant space constraints around the Thermal Oxidation plant, which may materially impact on Sasol Infrachem’s ability to retrofit incinerator B6990 with either waste heat recovery or quench. This would potentially influence the technologies that may be considered, and may place constraints on practicable implementation of any technologies for this purpose. This is one reason why retrofits to an existing brownfields operation are considerably more challenging than building a new greenfields plant.
 |
| **SO2** |
| **NOX** |
| **HM** |
| **TOC** |
| **Sub-category 8.1:** Thermal Treatment of Hazardous & General Waste | **Incinerator B6990****(Sasol Infrachem)** | **2015-2020** | **PM** |
| **SO2** |
| **NOx** |
| **HF** |
| **HM** |
| **Hg** |
| **Cd \* Ta** |
| **D & F** |
| **TOC** |
| Exit gastemperaturesmust bemaintainedbelow 200ºC |  |
| **Sub-category 8.1:** Thermal Treatment of Hazardous & General Waste | **B6993****(Sasol Infrachem)** | **2015-2020** | **PM** |  |
| **CO** |
| **NOx** |
| **HCl** |
| **HF** |
| **HMs** |
| **Subcategory 1.1:** Solid Fuel Combustion Installations | **Steam Station 1** | **2015-2020** | **PM** |
| **SO2** |
| **NOx** |
| **Subcategory 1.1:** Solid Fuel Combustion Installations | **Steam Station 2** | **2015-2020** | **PM** |
| **SO2** |
| **NOx** |
|  |  |  |  |

### Sasol NatRef, ## District Municipality, && Province

| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |  |
| --- | --- | --- | --- | --- | --- |
| **Subcategory 1.2:** Liquid Fuel Combustion Installation  | Fuel oil firedboilers | 2015-2020 | NOx | * Natrefs environmental management philosophy: this has been achieved thorough environmental improvements over the past 15 years; through its commitments to VTAPA Air Quality Management Plan that articulates a requirement for reduced SO2 emissions from Natref to facilitate air quality improvements in the local airshed; through its commitments to comply with the Department of Energy’s Clean Fuels II programme and in identifying potential environmental improvements, specifically possible reductions in atmospheric emissions. Natref relies extensively on two key reference documents namely Best Available Techniques (BAT) to reduce emissions from refineries (developed by CONCAWE), and the BAT Reference Documents (BREFs) for the oil refining industry.
* Inadequate time due to the challenges in regulations: The three versions of published regulations prescribed materially different requirements for refineries. In the 2010 MES, the principle of a ‘bubble’ was espoused for SO2 and NOx for refineries whereby compliance would be measured at the point of the emissions to atmosphere regardless of the process source of the emissions. In the draft 2012 MES, the bubble principle was withdrawn entirely, and an obligation mooted for point source controls for the three pollutants SO2, NOx and PM.
* Financial implications: Implementation of abatement Implementation of abatement equipment for compliance with the MES for processes such as the FCC, SRU and fuel gas-fired boilers, amounting to billions of Rands of investment, will incur significant demands on free cash flows. That free cash flow requirement competes directly with other investments, most notably Clean Fuels II. This imposes severe financial resource constraints on the business, which cannot all be accommodated at the same time. Natref faces two potentially competing regulatory requirements in that the refinery is required to comply with Clean Fuels II (CFII) product specifications in the same time period as complying with the MES.
* Resource availability: The only time at which the modifications required to comply with the MES can be effected, is during routine maintenance shutdowns of the refinery, the timing of which is driven by statutory requirements, financial and inland liquid fuel security considerations. These shutdowns cannot happen in an ad hoc manner but must be carefully scheduled so as not to negatively impact production output and consequently, inland liquid fuel supplies. In addition the shutdowns are scheduled in such a way as to ensure that the financial sustainability of the business is not compromised by the fact that the plant is not producing.
* Due diligence obligations: Good governance process means that all projects need to be properly motivated, evaluated and approved in a systematic and consistent manner. To this end Natref adopts Sasol’s ‘stage-gate’ process across the organisation to motivate, evaluate and approve all capital projects. The term ‘stage-gate’ derives from the fact that projects have to pass through different ‘gates’ each of which requires formal Natref Board approval.
 |
| **Subcategory 1.4:** Gas Combustion Installation | Fuel gas firedboilers | 2018-2020 | NOx |
| **Subcategory 2.1** Combustion Installations | Furnaces except vacuum off-gas furnace | 2015-2020 | PM |  |
| SO2 |
| **Subcategory 2.1** Combustion Installations | Vacuum off-gas furnace | 2015-2020 | PM |
| SO2 |
| **Subcategory 2.1** Combustion Installations | Amine treating | 2015-2020 | H2S |  |
| **Subcategory 2.2:** Catalytic Cracking Unit | **FCC** | **2018-2020** | **PM** |
| **Subcategory 2.2:** Catalytic Cracking Unit | **Furnaces plus FCC** | **2020-2025** | **SO2** |  |  |  |
| **Subcategory 2.4:****Storage & Handling of Petroleum Products**  | **Tank farm** |  | **TVOCs** |  |
|  |  |  |  |

## Shell Facilities

### Shell Kimberly, Northern Cape Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 2.4:** Handling & Storage of Petroleum Products | Vapour Recovery Units | 2015 – 2017  | Total Volatile Organic Compounds | Shell provided similar reasons to those in the Polokwane terminal application an included the following for the Kimberly terminal application:Shell requests a three year postponement for the installation of the vapour recovery unit at the Kimberly terminal. The postponement will assist Shell in the effective planning and scheduling of resources needed to ensure that the installations meet all the engineering standards.  |

### Shell Ladysmith, KwaZulu-Natal Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 2.4:** Handling & Storage of Petroleum Products | Vapour Recovery Units | 2015 – 2017  | Total Volatile Organic Compounds | Shell provided similar reasons to those in the Polokwane terminal application an included the following for the Ladysmith terminal application:Shell requests a three year postponement for the installation of the vapour recovery unit at the Ladysmith terminal. The postponement will assist Shell in the effective planning and scheduling of resources needed to ensure that the installations meet all the engineering standards.  |

### Shell Polokwane, Limpopo Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 2.4:** Handling & Storage of Petroleum Products | Vapour Recovery Units | 2015 – 2017  | Total Volatile Organic Compounds | Shell South Africa intends to install the vapour recovery units as per the requirements of the legislation. However, due to the number of Shell terminals in the country and the high capital outlay associated with the installation of the vapour recovery units, Shell wishes to apply for postponement of the compliance timeframes for the Polokwane terminal. This will aloe Shell to more effectively manage its cash flow. |

### Shell Port Elizabeth, Eastern Cape Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 2.4:** Handling & Storage of Petroleum Products | Vapour Recovery Units | 2015 – 2017  | Total Volatile Organic Compounds | The installation of a vapour recovery unit at the terminal’s loading gantry cannot be justified considering the limited life span of the current location. Shell South Africa wishes to apply for a postponement of the compliance of time frames with regard to the installation of the vapour recovery unit, which has been incorporated into the design of the new facility at the Coega IDZ. |

## Total Facilities

### Total Bethlehem, Free State Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 2.4:** Handling & Storage of Petroleum Products | Vapour Recovery Units | 2015 – 2016 | Total Volatile Organic Compounds | Total has indicated that the reason for the postponement application is mainly costs and the fact that the facility’s emissions have no impact on human health or the environment. Another reason is that due to the large number of its depots and the high capital outlay associated with the installation of the vapour recovery units, Total needs the postponement to manage its cash flow more effectively. |

### Total Polokwane, Limpopo Province

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Appliance** | **Postponement Period Sought** | **Pollutant** | **Justification & Reasons for Postponement Application** |
| **Subcategory 2.4:** Handling & Storage of Petroleum Products | Vapour Recovery Units | 2015 – 2016  | Total Volatile Organic Compounds | Total has indicated that the reason for the postponement application is mainly costs and the fact that the facility’s emissions have no impact on human health or the environment. Another reason is that due to the large number of its depots and the high capital outlay associated with the installation of the vapour recovery units, Total needs the postponement to manage its cash flow more effectively. |

 **RECOMMENDATIONS**

It is recommended that the Portfolio Committee:

* Notes the status of the applications for postponement of compliance timeframes for all facilities whose applications have been considered and finalized by the National Air Quality Officer (NAQO) – with the concurrence of Atmospheric Emission Licensing Authorities – between 1 April 2014 and 31 March 2015;
* Notes the status of postponement decisions and reasons for granting decisions;
* Notes the compliance status of postponement holders; and
* Notes Current postponement applications.