water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

aurecon

MINUTES OF MEETING

Algoa WSS Reconciliation Strategy Continuation: ATSG Meeting 18 held on 7 March 2018 at 09h00 at the offices of Aurecon, Port Elizabeth

Item			Action
1.	**WELCOME** The chairperson, Mr Tendayi Makombe, welcomed everybody to the eighteenth meeting of the Administrative and Technical Support Group (ATSG) of the Algoa Water Supply System Reconciliation Strategy Continuation.		
2.	**ATTENDANCE AND APOLOGIES** **Attendance**		
	Amanda Sizani	DWS	AS
	Andreas Engelbrecht	GFRWUA	AE
	Andrew Lucas	D: Water Regulation and Use	AL
	Bolekwa Kama	IE: Proto CMA	BK
	Cebisa Goboza	DWS: NWRI	CG
	Chandré Barnard	NMBM	CB
	Eben Bosman	DWS	EB
	Erik van der Berg	Aurecon	EvdB
	Glenn Daniell	DWS: Infrastructure Operations	GD
	Harms du Plessis	LSRWUA	HdP
	Jacques van der Merwe	DWS: Water Regulation	JvdM
	Jacqui Murray	DWS: Water Regulation	JM
	Jeff Govender	DEDEAT	JG
	Jenny Pashkin	DWS: D: WRPS Systems Operation	JP
	Kevin McRae	AfriCoast Engineers	KmR
	Kowie Joubert	DRDAR	KJ
	Lukhanyo Mbambo	DWS	LM
	Martin Labuschagne	DWS ECape: WR&U-Manager Sarah Baartman DM	ML
	Maxine Botha	Aurecon	MB
	Menard Mugumo	DWS: D: OA CE: South	MM
	Mike Primmer	LSRWUA	MP
	Nick Chapman	VWSA – Business Chamber	NC
	Nico Lombard	Cacadu District Development Agency	NL
	Patience Shikwembene	DWS: NWRP	PS
	Patrick Mlilo	DWS: NWRP	PMl
	Paul Chilton	DWS: CE: Proto CMA CM	PC

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	Paul du Plessis	NMBM	PdP
	Pierre Joubert	Gamtoos IB	PJ
	Portia Makhanya	CD: E Cape Region, DWS	PMa
	Rienette Colesky	Gamtoos IB	RC
	Tendayi Makombe	DWS: NWRP	TMa
	Thelani Grant	Living Lands	TG
	Tony Moore	DWS: D: OA CE	TMo
	Victor Felton	Kouga LM	VF
	Apologies		
	Ancia Cornelius	Living Lands	AC
	Barry Martin	NMBM	BM
	Dup van Reenen	AfriCoast Engineers SA	DvR
	Eddie Oosthuizen	Kouga LM	EO
	Koos Viljoen	DWS: NWRI (SO)	KV
	Liz Metcalfe	Living Lands	LM
	Reina Zastron	Aurecon	RZ
	Sieg Rousseau	Amatola Water	SR
3.	**ADOPTION OF AGENDA** The agenda was adopted without any changes.		
4	**APPROVAL OF PREVIOUS MINUTES** The minutes of the meeting held on 24 October 2017 were accepted with the following changes (changes shown in **bold**): Page 1 point 2: Abbreviations for Tendayi Makombe and Tony Moore changed to "TMa" and "TMo" respectively. Abbreviation for Ilse Chilton changed to "IC". Page 2 point 6.3: "JP reported that an enterprise licence for the model is now in place in DWS, with several logins available, and that the system is now being hosted on a DWS server. **A report** will be generated and sent to interested parties." Page 4 point 7.1: "Transferred Orange River water: the **supply** increased following completion of Phase 2 of the Nooitgedagt Low Level Scheme, from 32.9 (90 Ml/d) to 50.0 million m^3/a (137 Ml/d). The **available water** from the Kromme sub-system was reduced from 43 million m^3/a (long-term yield) to 30 (firm yield), to be in line with the Algoa Annual Operating Analysis (the historical yield was also adjusted to account for this). He noted that this change has significant long-term planning implications, due to the reduced **available water**." "Further allocation of Orange River water to NMBM **due to the implementation of water saving interventions in the Fish and Sundays river catchments** (NLLS Phase 4, with an assumed provisional potential additional volume of 18.25 million m^3/a (50 Ml/d), until this is further clarified)." Page 7 point 14: "RM did a presentation on previous **investigations done** in the area, i.e. the groundwater investigated in 2010/2011 by NMBM, to augment their potable		

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	water supply." Page 9 point 16.1: "This potential development will only be **re-evaluated at desktop level** after the desalination of the Sundays River Irrigation Return Flows Scheme has been considered, as it is expected to be more expensive and to have a significant environmental impact, and should there still be budget available for such an assessment."	
5	**MATTERS ARISING FROM PREVIOUS MINUTES** No matters arising that are not on the agenda.	
6.	**RELEVANT PROJECTS AND INITIATIVES UNDERTAKEN BY OTHER RESPONSIBLE ENTITIES**	
6.1	**AWSS Annual Operating Rules** JP reported that the monthly drought meetings are still underway and are well attended. The monthly monitoring reports are being distributed to relevant stakeholders. The next decision date is 1 June 2018, and the model will be run to determine the required restrictions for the next hydrological year. PJ reported that there is currently enough water in the Kouga Dam to deliver all restricted water requirements for the rest of the current hydrological year without the dam going empty due to the rainfall which was recently received. PJ expressed his congratulations to EvdB and the Aurecon team for the effectiveness of the model results used to determine the restrictions for the system for 2017/18 hydrological year.	
6.2	**Orange River Annual Operating Rules** JP indicated that there are currently no restrictions on the use of water in the Orange River system.	
6.3	**OFS Real-time Model** JP reported that the OFS Real-time model is running at the moment and the transfer from the Orange River to the Fish and Sundays river catchments is being monitored. The results of the model will be reported at the end of the hydrological year in order to assess the effectiveness of the model's performance. HdP noted that the previous report sent out showed a large volume of water transferred to the Fish and Sundays river catchments, which was over the combined total allocation from the Orange River. The LSRWUA feels that this is not a fair description, as it is a general statement for all of the users within the Fish and Sundays river catchments. HdP proposed that the report should account for the water used by the various users e.g. the GFRWUA, LSRWUA and domestic users in order to fairly highlight which users are over-abstracting. JP noted that the model has the functionality to produce such information, however, budget needs to be allocated to a relevant technical person (such as Kevin Greaves of DHI) to set up the monitoring tool to produce the results. AE added that, according to the DWS website, the total flow into the GFRWUA was 486 million m^3, while the outflow was 132 million m^3. This means that 354 million m^3	Aurecon

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	was used by the GFRWUA, which is within their allocation. PMa suggested that a representative from DWS Infrastructure branch should give a presentation of these issues at the next ATSG meeting, with inputs from JP where necessary.	CG
6.4	**Verification and Validation (V&V)** PC reported that the Validation process is complete and the Verification process is 54% complete. The PSP is currently training the CMA's technical staff to continue with the Verification process, once the PSP's contract ends. LM added that verification for 10 985 properties has been completed (7 507 under Section 35-1 and 3 478 under Section 33). For unresponsive properties (letters returned to sender or failures to respond), the required information will be requested from the Irrigation Board. JG expressed concern that there is inadequate capacity for Compliance and Enforcement in the DWS, as there are currently only two individuals responsible for this in the Eastern Cape Province. PMa responded that DWS is aware of this staffing constraint, and the concern is noted. JvdM noted that the DWS office in Cradock is currently underway with a desktop study to identify properties with potential illegal use.	
6.5	**Working for Water and Working for Wetlands** PJ reported the following cumulative figures for progress made to date since 1 April 2017: • Kouga catchment: R 8.09 million spent on initial clearing of aliens and follow up clearing. • Kromme catchment: R 6.60 million spent on initial clearing of aliens (356 ha) and follow-up clearing (1 600 ha). • Helicopter assistance: R 2.89 million spent on clearing of 71 555 ha. It is noted that this area is the area of total land covered, not the area of actual infestation. • Rehabilitation of wetlands: R 3.84 million spent in the Baviaans and Kromme catchments. JG enquired whether the program engages with the Eastern Cape Parks and Tourism Agency (ECPGA). PJ confirmed that the program does engage with the ECPGA. AL enquired whether there is evidence of the impact of this program on the runoff in the catchments. PJ responded that, although there are no finalised figures, local farmers in the upper reaches of the catchment (which is currently the area of focus) are reporting increased baseflows in the rivers. It is important to ensure that any additional flows, due to the positive effects of the alien clearing, end up in the downstream dams, and are not used up by opportunistic farmers.	
6.6	**Projects undertaken by Living Lands** TG gave a presentation on the work currently being undertaken by Living Lands. Rehabilitation is continuing in the Baviaanskloof, and lavender and rosemary are being harvested. Honeybush trials are well underway in the Langkloof and stakeholder	

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	engagements are continuing. Composting trials are also underway. Living Lands is also collaborating with the Gamtoos IB for the planting of palmiet and dry land rehabilitation courses. Progress has also been made with the setting up of the Water Fund, and a Steering Committee is currently being formed. In the Baviaanskloof and the Langkloof, the participatory hydrological model building project is still moving forward, with various workshops being held and large amounts of data being gathered, both in the field as well as from discussions with local stakeholders.	
6.7	**National Water Quality Policy and Strategy** The updated policy and final strategy, as well as a number of other project reports, have been completed and are available on the DWS Website at: https://www.dws.gov.za/projects/iwqms/Documents.aspx	
6.8	**Integrated Marine Pipeline servitude** JG reported that environmental authorisation was granted for the marine pipeline on 7 February 2018. The 60 Ml/d desalination plant and the aquaculture project was also approved, and the aquaculture project will include marine and freshwater fish species. The project will only commence once funds become available from a potential investor. The abstraction point for the marine water source has not yet been finalised.	
7	**STATUS REPORT**	
7.1	**Progress Report (Status Report 7)** EvdB noted that the next Status Report will be compiled after this ATSG meeting, and will be presented at the next SSC meeting on 18 April 2018.	
8	**OPERATIONAL EFFICIENCY**	
8.1	**Darlington Dam operating capacity and dam safety rehabilitation programme** GD reported that there has been no further progress since the last ATSG meeting. EvdB noted that there are unused lump sum funds in this project, a portion of which could potentially be utilised for the request to undertake an investigation into the benefit of increasing the storage capacity of Darlington Dam. The request for the small investigation was made by Mr Mugumo of DWS. JP suggested that the dam foundations should also be checked in order to determine whether the raising of the dam should even be investigated. HdP stressed that the fixing of the leaking sluice gates should be made a priority, and that the rehabilitation of the gates should not be held up by other investigations into the potential raising of the dam. It was requested by the committee that the DWS Infrastructure branch prepare a presentation for the next ATSG meeting to clarify the status of this project and the progress made.	GD, CG

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8.2	**Additional balancing storage in the LSRGWS** EvdB provided an overview on progress of the Feasibility Component of the study. The main aim is to remove any bottlenecks in the supply of bulk water from the Orange River to the NMBM. It was found that, in order to reduce the risk of failure of supply to the NMBM, additional balancing storage is needed for supply to the NMBM, and the objective is to identify potential sites for such storage and select a preferred option to take forward to the feasibility design stage. The following five identified options for providing 21 days of additional balancing storage for the NMBM were briefly discussed: 1. Upper Scheepersvlakte Dam 2. Lower Coerney Dam 3. Upper Coerney Dam 4. Nooitgedagt North 5. Nooitgedagt South. The following comparison of options was presented, with costs shown including VAT:	

Evaluation Factor	Potential dam sites				
	Upper Scheepers.	Lower Coerney	Upper Coerney	Nooit. North - Option 1	Nooit. South
Capital cost (R mill)	R349	R237	R375	R457	R654
Capital cost (pumps cost reduced by 50%) (R mill)	R282	R231	R309	R403	R600
Cost	2 - 2nd lowest	1 - Lowest	3 - 3rd lowest	4 - High	5 - Very High
Pumping required	X		X	X	X
Operational complexity	X	X			
Strategic location near NWTW				X	X
Ecological (Reserve)		X but likely easy to address	X but likely easy to address		
Floods		X	X		
Environmental & social impacts	Limited difference	Limited difference	Limited difference	Limited difference	Limited difference

The following recommendations were made:

- The Nooitgedagt sites should not be investigated further at this stage. Although these sites are strategically located near the NWTW, the comparative cost of these options is too high.
- The Lower Coerney site is the preferred site, followed by the Upper Scheepersvlakte site. The additional advantage of the Lower Coerney site, besides having the lowest comparative cost, is that water can be supplied by gravity to NWTW.
- It is recommended that the topographical survey and geotechnical evaluations commence for the Lower Coerney Dam and Upper Scheepersvlakte Dam sites, to ensure that detailed information for the feasibility evaluation is readily

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	available, when the feasibility design of the preferred option commences. AL queried whether there is a need for additional balancing storage elsewhere in the system, such as at Cookhouse. EvdB noted that it is not within the scope of this study to undertake such an assessment. MM noted that recommendations may be made in this study for additional balancing storage options to be investigated, at certain priority locations, in future studies.	
9	**WATER REQUIREMENTS AND USE**	
9.1	**NMBM water requirements and use** No discussion.	
9.2	**Coega IDZ water requirements** No discussion.	
9.3	**Kouga LM water requirements** VF reported that the Kouga LM is currently investigating the use of boreholes to supplement their water supply. Three boreholes have been drilled at Oyster Bay, with a capacity of about 1 to 1.5 l/s. Two springs have also been revitalised, with a combined capacity of about 2 l/s. Two new boreholes have been drilled at Jeffrey's Bay, with a combined capacity of about 5 to 5.5 l/s. Preliminary investigations suggest that this is good quality water. Drilling has also started in Hankey, and there are indications of good potential yields in the area. The LM has also applied to the DWS for permission to drill at the foot of the Kouga Dam. Gamtoos IB is supporting Kouga LM with a public participation process to save water in the communities and to get feedback on potential water saving opportunities. There have been interactions with schools across the LM. The LM purchased water tanks to be installed at schools as well as at clinics in the Gamtoos area. Billboards have been sponsored by businesses for advertising purposes. Pamphlets were handed out in November and December 2017, and posters put up in public bathrooms, to communicate the need for water savings to the public. TMa enquired whether the development of groundwater resources is for a temporary supply or whether the supply will be integrated into the system for long-term use. VF confirmed that the aim is to ensure sustainable use of the boreholes for long-term supply. JP raised a concern that the lawful allocation indicated in the All Towns study for Hankey and Patensie is higher than the current lawful allocation, and requested clarity on the lawful allocation to these towns for monitoring purpose. VF confirmed that the ALL Towns report is showing the anticipated increased allocation that was not approved by DWS. EvdB enquired whether the Kouga LM's reliance on the Churchill Dam supply could potentially be reduced in the future due to the supply from the boreholes currently being investigated. VF noted that Ricky Murray (from Groundwater Africa) indicates that there is a good chance that the LM could be mostly self-sufficient in the future, however it is too early to confirm this.	

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	AL queried whether more could be done in the small towns, such as Hankey and Patensie, during times of drought to manage the water demand. VF responded that the LM shuts down the water supply to Patensie overnight in order to limit water wasted due to potential pipe bursts and leakages. There are also plans to install water restrictors. PMa expressed concern that the Kouga LM is not achieving its restriction targets, and that the demand issues need to be addressed, in order to rectify the situation. More practical means are required in order to reduce the water demands.	
9.4	**WUE Fish and Sundays catchments** EvdB noted that the WUE Component of this study was completed at the end of 2017. The final report, with detailed recommendations, was completed and circulated to relevant stakeholders. The main recommendation made was to reduce the operational releases currently being made in the Lower Fish River as they are currently above the required operational targets. Other recommendations included a reduction of the allowance made for canal losses in the GFRWUA, however the GFRWUA did not agree with this recommendation, and their concerns are noted in the final report. It was also recommended that the spills at the Korhaansdrift Weir be reduced. JP reiterated the need for resources to be allocated to DHI in order to quantify the volume of savings realised through the optimising of the operation of the system. AL queried whether the issue of inefficient irrigation methods was considered. AE responded that the irrigation efficiencies in the Fish River catchment have improved significantly over time. There has been a major shift from flood irrigation to pivot and sprinkler irrigation, and there is currently only 20% flood irrigation taking place (which is laser-levelled). KJ added that the efficiency of irrigation is not only based on the type of irrigation system used, but it is closely linked to the management and design of the system. Even flood irrigation can reach an efficiency of 95% if the ground is laser-levelled and the irrigation system is correctly designed and managed. PJ added that irrigators require an incentive to improve their irrigation efficiency. For most irrigators the incentive is to have more water available to develop more land.	Aurecon
9.5	**Thyspunt Nuclear Power Plant** VF noted that the development of the Thyspunt Nuclear Power Plant is not currently being considered, and suggested that this point be removed from this meeting's agenda.	MB
10	**IMPROVING THE CONFIDENCE OF WATER AVAILABILITY**	
10.1	**Proposed water availability assessment study – Kromme and Kouga rivers** TMa reported that this study is still in the procurement stage.	
11	**WC/WDM**	
11.1	**Report by NMBM** CB reported on WC/WDM in the NMBM. The NMBM is continuing with the various work streams for WC/WDM. Since the start of the program, the NMBM has reduced its usage from 300 Ml/d to 279 Ml/d. The bylaw is currently being updated to include	

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	WC/WDM measures. The drilling of five production boreholes has started, and this is expected to be completed by September 2019. EvdB suggested that focusing on WC/WDM to reduce water demand, without also considering future supply schemes, may have the negative effect of limiting the flexibility of the system to cope with droughts. A key drought mitigation strategy is to reduce demand during times of drought, however this is less effective if the demand has already been significantly reduced by WC/WDM. Therefore, the return period for which the water supply system is designed (currently typically 1 in 50 years for urban supply and 1 in 10 years for irrigation) may need to be reconsidered to account for the potentially reduced flexibility.	
11.2	**Report on progress with WUE in schools** No discussion.	
11.3	**Report on progress of other municipalities** No discussion.	
12	**ORANGE RIVER INTER-BASIN TRANSFER SCHEME**	
12.1	**Nooitgedagt Low-Level Scheme: Implementation and Financing** KmR reported that construction of Phase 3 is currently underway and is progressing well. Phase 3 is expected to be completed by February 2020. There have, however, been concerns with regards to potential budget cuts. PMa noted that she was not aware of any formal communications between the DWS and the contractors regarding budget changes. Progress with the implementation of Phase 3 is as follows: The contractor was appointed in December 2016, with the commencement date being 19 May 2017. The contractor established on site at the Nooitgedagt WTW and at the Olifantskop Reservoir site. The construction of Phase 3 is due for completion in February 2020.	
12.2	**Potential additional future allocation (maximising the existing scheme)** MB reported that there have been no changes to the recommendations presented at the previous ATSG meeting.	
12.3	**Desalination of Sundays River irrigation return flows** There has been a request for the PSP to conduct a high-level pre-feasibility evaluation of this potential scheme as part of this study if there are sufficient funds available. EvdB to discuss this possibility with TMa.	EvdB, TMa
13	**RE-USE OF WATER**	
13.1	**Re-use of water treated to industrial standards – Fishwater Flats and Coega WWTWs** KmR reported that the reservoir at Coega Kop is currently being completed. This scheme will not be developed further until there is sufficient demand from the Coega IDZ. There is currently a fairly small demand for industrial water, which is currently being met by potable water supply.	

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14	**GROUNDWATER**	
14.1	**NMBM Coega Kop implementation and other groundwater studies** No updates since previous ATSG meeting.	
15	**SEAWATER DESALINATION**	
15.1	**NMBM Desalination Scheme** CB noted that a potential development is the desalination plant at Marina Sea Salt. Marina Sea Salt would own the plant, and sell the treated water to the NMBM. EvdB tabled a suggestion made by Barry Martin (of the NMBM) at the Study Management Meeting held on 6 March 2018. The suggestion is for the DWS to plan, construct and operate a large desalination plant to supply the entire domestic demand for the NMBM, and to reallocate the existing surface water supply to agricultural development in the area. ML noted that water users in the Orange River / Vaal system may potentially be prepared to assist in funding such a desalination project if they could receive the Orange River water currently allocated to the Eastern Cape Province. ML also noted that re-use schemes should be considered before implemented large desalination schemes. NC noted that most businesses would support the development of a large desalination plant and would be prepared to pay a higher rate for an increased assurance of supply. He noted that there is more security in desalination as a future water supply scheme, as it is also not affected by climate change, whilst surface water schemes are. For businesses, having no water is more costly than buying desalinated water. Consumers will also use water more sparingly if the cost of water is increased. EvdB noted that the ranking of options in the reconciliation strategy study could potentially include a consideration for the assurance of supply in order to account for this factor.	
16	**LOCAL SURFACE WATER DEVELOPMENT**	
16.1	**Kouga Dam 'raising' and Guernakop Dam** There has been a request for the PSP to re-evaluate this potential scheme at desktop level as part of this study if there are sufficient funds available. EvdB to discuss this possibility with TMa.	EvdB, TMa
17	**IMPACT ON YIELDS OF EXISTING DAMS: ECOLOGICAL RESERVE & CLIMATE CHANGE**	
17.1	**Implementing the Reserve for existing dams** JP noted that the Reserve information for existing dams is available at the DWS. EvdB noted that simple climate change scenarios are run for the scenario assessment in the reconciliation strategy, but a detailed assessment of the potential effects of climate change is not done. EvdB to contact the DWS Climate Change unit to obtain more detailed information on climate change scenarios (get contact from MM).	EvdB

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18	**COMMUNICATION**	
18.1	**News Release** TMa noted that the News Release will be made after the next SSC meeting.	
18.2	**Webpage Update** TMa to send contact details of the new webmaster at DWS to RZ.	TMa
19.	**GENERAL** <u>Education of the media</u> JG noted that education of the media on water-related topics may be required in order to stop the media from passing negative impressions and untruths to the public e.g. negative impressions on water re-use.	
20.	**NEXT MEETINGS** The dates of the next meetings are given below. • SSC Meeting: Wednesday, 18 April 2018 @ 09h00 • ATSG Meeting: Wednesday 9 May 2018 @ 09h00 MB to send out invitations to the team for the proposed dates of all of the ATSG meetings for 2018.	MB
21.	**CLOSURE** PMa closed the meeting at 14h20, and thanked the members for their attendance and informed inputs.	

APPROVAL OF MINUTES:

Project Manager: Mr T Makombe (DWS) Signed: _____ Date: _____

Study Leader: Mr E vd Berg (Aurecon) Signed: _____ Date: _____

ACTIONS LIST:

Item in minutes	Action	Responsible
6.3 OFS Real-time Model	PMa suggested that a representative from DWS Infrastructure branch should give a presentation of the issues highlighted in this meeting at the next ATSG meeting, with inputs from JP where necessary.	CG
6.3 OFS Real-time Model	JP suggested that budget needs to be allocated to a relevant technical person (such as Kevin Greaves of DHI) to set up the monitoring tool to produce the results.	Aurecon
8.1 Darlington Dam operating capacity and dam safety rehabilitation programme	It was requested by the committee that the DWS Infrastructure branch prepare a presentation for the next ATSG meeting to clarify the status of this project and the progress made.	GD, CG
9.5 Thyspunt Nuclear Power Plant	VF noted that the development of the Thyspunt Nuclear Power Plant is not currently being considered, and suggested that this point be removed from this meeting's agenda.	MB
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17.1 Implementing the Reserve for existing dams	EvdB to contact the DWS Climate Change unit to obtain more detailed information on climate change scenarios (get contact from MM).	EvdB
18.2 Webpage update	TMa to send contact details of the new webmaster at DWS to RZ.	TMa
20. Next Meetings	MB to send out invitations to the team for the proposed dates of all of the ATSG meetings for 2018.	MB