## Sub Working Group: Power Systems (5.1.2.)

## Task Register Reference

* 5.1.2 - Review of IALA documents (ref ENG1 input paper on document ownership).

## Summary

Progress has been made with the IALA solar model and review of guideline 1036 has started. Initial read through of guidelines 1067 has occurred to identify area to update. This will continue intercessionally.

## Activity

Review of the suit of IALA documents occurred with a focus on power systems. A summary of the finding is detailed below:

Anticipated action on documents to update:

* **Merge** 1011 Ed1.1 - A standard Method for Defining & Calculating the Load Profile of AtoN\_Dec2005 and

1067-1 Ed1 - Total Electrical Loads of Aids to Navigation\_May2009

* **Merge** 1044 Ed1 - Secondary Batteries for Aids to Navigation\_Jun2005 and

1067-3 Ed1 - Electrical Energy Storage for Aids to Navigation\_May2009 – Done in 2009

* **Update** 1067-0 Ed1.1 - Selection of Power Systems for AtoN and Associated Equipment\_Jun2011 to create this as an overview document to power system design and review and remove the annex
* **Update** 1067-2 Ed1 Power Sources\_May2009 and review the current document and add information about designing other types of power generation system.
* **Update** 1039 Ed1 Designing Solar Power Systems for Aids to Navigation\_Dec2004 – The instruction on use of the solar size program will need to be update to reflect changes in the tool (see below).
* **Update** 1008 Ed2 Remote Control and Monitoring\_Jun2009 – as this will need to be review and updated to reflect current approaches.

Anticipated actions on Tools (Calculators):

* 1039 Solar size program-2004 – Review and update the program to reflect other power sources.
* Consider the creation of other support and design tools, such as wind generator, battery sizing and generator set use.
* Add all tools to the IALA Wiki

Cross reference

* 1036 Ed1 Environmental Considerations in Aids to Navigation Engineering\_Dec2004 - Just needs checking for on-going relevance.
* 1077 Ed1 Maintenance of Aids to Navigation\_Dec2009 – **If** this is to be discontinued then a new maintenance document needs to be created reflecting the maintenance required on power systems.



## Timetable to Actions

| Action | What | Who | Progress | Complete by |
| --- | --- | --- | --- | --- |
|  | 1039 Solar size program-2004 – Review and update the program to reflect other power sources. | Jorg Unterderweide | Worked on at ENG3.  Reviewed input papers. Compared the IALA model to other existing models. Identified some minor areas of improvement. | ENG 7 |
|  | **Update** 1039 Ed1 Designing Solar Power Systems for Aids to Navigation\_Dec2004 – The instruction on use of the solar size program will need to be update to reflect changes in the tool (see below). | Jorg Unterderweide | Insert some addition background and format into the new style,  Input paper for ENG 6 | ENG 7 |
|  | ~~Consider the creation of other support and design tools, such as wind generator and generator set use.~~ |  | Following review of the IALA solar model, it was felt that this should remain a simple solar model only. More complete hybrid models are publicly available such as RETscreen. | Done |
|  | Consider the creation of other support and design tools such as battery sizing. | Peter Dobson | Input paper ENG3-10.18 was reviewed and felt not to be of benefit to other members at this time. | Done |
|  | Compare the performance of the above tool (Solar) against RETscreen calculator | Leif Larsen & Peter Dobson | Worked on at ENG3.  Reviewed input papers. Compared RETscreen to other models and the results that it provided were more optimistic than the IALA solar model | Done |
|  | Add all tools to the IALA Wiki | Jorg Unterderweide | On going | On going |
|  | **Merge** 1011 Ed1.1 - A standard Method for Defining & Calculating the Load Profile of AtoN\_Dec2005 and 1067-1 Ed1 - Total Electrical Loads of Aids to Navigation\_May2009 | Jorg Unterderweide | No progress | ENG6 |
|  | **~~Merge~~** ~~1044 Ed1 - Secondary Batteries for Aids to Navigation\_Jun2005 and~~  **Review** 1067-3 Ed1 - Electrical Energy Storage for Aids to Navigation\_May2009 | Peter Dobson | 1067-3 still needs to be reviewed | ENG7 |
|  | **Update** 1067-0 Ed1.1 - Selection of Power Systems for AtoN and Associated Equipment\_Jun2011 to create this as an overview document to power system design and review and remove the annex | All | Initial review as an input paper for ENG 4 | ENG 7 |
|  | **Update** 1067-2 Ed1 Power Sources\_May2009 and review the current document and add information about designing other types of power generation system. | Ronan Autret & Peter Dobson | No progress | ENG7 |
|  | **Update** 1008 Ed2 Remote Control and Monitoring\_Jun2009 – as this will need to be review and updated to reflect current approaches. | Leif Larsen | No progress | ENG6 |
|  | **Cross reference** 1036 Ed1 Environmental Considerations in Aids to Navigation Engineering\_Dec2004 - Just needs checking for on-going relevance. | James Collocott | Checking for ongoing relevance and provide an input paper | ENG3 |
|  | **Cross reference** 1077 Ed1 Maintenance of Aids to Navigation\_Dec2009 – If this is to be discontinued then a new maintenance document needs to be created reflecting the maintenance required on power systems. | All | Maintenance of power systems needs to be addressed. The question is, in which document it should appear?  The text of Annex 5 was reviewed at ENG 2 with recommended changes. See working paper ENG2-???? | ENG3 |

## Intercessional Actions

* Review the documents assigned in the table above to identify areas for removal, addition or change.
* These changes are to be sent to Jorg Unterderweide who will add them to the IALA Wiki for group editing.
* Jorg Unterderweide to submit an input paper to ENG3 summarising these changes.